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## **ENVIRONMENTAL SITE ASSESSMENT REPORT**

**Deltech Custom Facility**  
7743 Ohio River Boulevard  
New Cumberland, Hancock County, West Virginia

TRIAD Project No. 01-09-0362

Prepared for:

**Mr. Dennis Cooper**  
**Deltech Resins Company**  
**7743 Ohio River Blvd.**  
**New Cumberland, West Virginia 26047**

Prepared by:

**TRIAD ENGINEERING, INC.**  
**219 Hartman Run Road**  
**P.O. Box 889**  
**Morgantown, West Virginia 26505**

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# TABLE OF CONTENTS

COVER SHEET	
TRANSMITTAL LETTER	
TABLE OF CONTENTS	
LIST OF FIGURES	
LIST OF TABLES	
LIST OF APPENDICES	
EXECUTIVE SUMMARY	

<b>1.0 INTRODUCTION</b>	<b>3</b>
1.1 <i>Site Property Location</i>	3
1.2 <i>History of the Property</i>	4
1.3 <i>Adjoining Property</i>	5
<b>2.0 ESA ACTIVITIES</b>	<b>5</b>
2.1 <i>Scope of Assessment</i>	5
2.2 <i>Field Explorations and Methods</i>	6
2.3 <i>Deviations from the Work Plan</i>	7
2.4 <i>Chemical Testing Plan</i>	7
2.5 <i>Data Validation</i>	7
<b>3.0 EVALUATION AND PRESENTATION OF RESULTS</b>	<b>8</b>
3.1 <i>Site Property Topography, Hydrology, and Geology</i>	8
3.2 <i>Analytical Data</i>	9
<b>4.0 CONCLUSIONS AND RECOMMENDATIONS</b>	<b>10</b>

## FIGURES

Figure 1. Site Location Map (USGS, 1972) .....	4
Figure 2. Off-Site Sample Location Map.....	(Attached)
Figure 3. On-Site Sample Location Map.....	(Attached)
Figure 4. Cross-Section Model of Groundwater Elevations.....	(Attached)

## TABLES (ATTACHED)

Table 1. Selection of COCs and Observed Releases, VOCs, Mountaineer Race Track Property	
Table 2. Selection of COCs and Observed Releases, VOCs, Deltech Property	
Table 3. Selection of COCs and Observed Releases, Dissolved-Phase Metals, Mountaineer Race Track Property	
Table 4. Selection of COCs and Observed Releases, Dissolved-Phase Metals, Deltech Property	
Table 5. COC's Compared to MCL's (VOC)	
Table 6. COC's Compared to MCL's (Dissolved-Phase Metals)	
Table 7. Monitoring Well Observations	

## **TABLE OF CONTENTS, Continued**

### **APPENDICES**

Appendix 1. Site Property Photographs

Appendix 2. Monitoring Well Logs

Appendix 3. Sample Log Sheets

Appendix 4. Data Validation Report

## EXECUTIVE SUMMARY

This report presents the results of the Environmental Site Assessment (ESA) performed by TRIAD ENGINEERING, INC. (TRIAD) at the Deltech Custom Facility property (the Site) located at 7743 Ohio River Boulevard in New Cumberland, Hancock County, West Virginia. The Site is also known as NewChem or Thiokol Specialty Chemicals.

The purpose of the ESA was to perform groundwater sampling activities at the Site for contaminants of potential concern (COPC) in the existing groundwater monitoring wells.

Sampling was performed at the Site on November 30 and December 1, 2009. The general sampling locations, methods, and test parameters were selected based on the scope of work provided by Mr. Bill Wentworth, US EPA Project Manager, and current site conditions. The assessment included field sampling and laboratory analysis, data review/analysis, data validation, and report preparation.

To evaluate the groundwater at the Site, samples were collected from seventeen existing monitoring wells including quality control samples. Monitoring Well (MW)-MP6, MW-MP7, MW-MP70 FD, MW-1A, MW-1D, MW-2, MW-2D, and MW-7 were lab analyzed for dissolved-phase metals and volatile organic compounds (VOCs). MW-MP1, MW-MP2, MW-MP3, MW-MP4, MW-MP5, MW-MP8, MW-8, MW-4A, MW-3AR, and MW-5A were lab analyzed for dissolved-phase metals only. MW-6D was not sampled due to lack of groundwater.

The groundwater analytical results were compared to their respective US EPA Region III risk based concentrations (RBCs) for tapwater dated December 2009,



USEPA Safe Drinking Water Maximum Contaminant Levels (MCL), and the USEPA National Secondary Drinking Water Regulations.

Arsenic (As), manganese (Mn), 1,2-dichloroethane, benzene, chloroform, and trichloroethene (TCE) had concentrations greater than their respective RBCs. However, chloroform was detected in background well MW-1A and should not be considered a contaminant of concern. Chlorobenzene and iron were detected above the laboratory CRDL but below the tapwater RBC. TCE was above the Safe Drinking Water MCL in MW-MP6 and manganese was above the Secondary Safe Drinking Water MCL's in MW-MP4, MW-MP7, MW-MP6, MW-1D, MW-2, MW-2D, MW-7, and MW-8.

Based on the site assessment activities and groundwater analytical results, TRIAD concludes that groundwater contamination still exists at the Site. Therefore, TRIAD recommends the following;

- Groundwater monitoring continue on the Site for As, Mn, 1,2-dichloroethane, benzene, and TCE.
- MW-6D should be overdrilled or a new well be installed to intersect the groundwater table to further delineate the groundwater plume and source.
- TCE is above the Safe Drinking Water MCL in MW-MP6 due to an unknown source from the Site and is migrating off-site to the adjoining property to the west. Further environmental assessments are recommended to further delineate the TCE plume and monitor natural attenuation.
- Concentrations of dissolved phase manganese were detected in above the Secondary Safe Drinking Water MCL. However, USEPA National Secondary Drinking Water Regulations are non-enforceable guidelines that only regulate contaminants that may cause cosmetic effects or aesthetic effects to the drinking water. Corrective action is not recommended at this time.

## 1.0 INTRODUCTION

This Environmental Site Assessment (ESA) Report presents the results of groundwater monitoring event conducted by TRIAD ENGINEERING, INC. (TRIAD) at the Deltech Custom Facility (the Site) located at 7743 Ohio River Boulevard, New Cumberland, Hancock County, West Virginia. Aliases for the Site are NewChem and Thiokol Specialty Chemicals. The scope of work was provided by Mr. Bill Wentworth, USEPA Project Manager, and performed according to the methodologies set forth in the previously approved Quality Assurance Project Plan (QAPP) submitted and approved by US EPA as *Sampling and Analysis Plan, Thiokol-Specialty Chemicals Division*, Triad Engineering, Inc., May 3, 2005.

However, these findings and conclusions contain all of the limitations inherent in these methodologies which are referred to in the protocol and some of which are more specifically set forth below. There is a possibility that even with proper application of these methodologies conditions may exist on the property that could not be identified within the scope of the assessment. The methodologies of this assessment are not intended to produce all inclusive or comprehensive results, but rather to provide the user with information regarding potential adverse environmental conditions relating to the Site.

### 1.1 Site Property Location

The Site is currently occupied by Deltech Custom Facility. The surrounding vicinity is a commercial and residential area of New Cumberland, WV that consists of restaurants, commercial businesses, hotels, and residential neighborhoods. Ohio River Boulevard (WV State Route 2) is east of the Site and the Ohio River is to the west of the Site. The Site is located at north latitude 40°34'28.26" west longitude 80°38'58.70." The location of the Site Property is depicted on the following page as **Figure 1, Site Location Map** on the *USGS 7.5-minute topographic quadrangle map of Wellsville, Ohio-W. Va.*

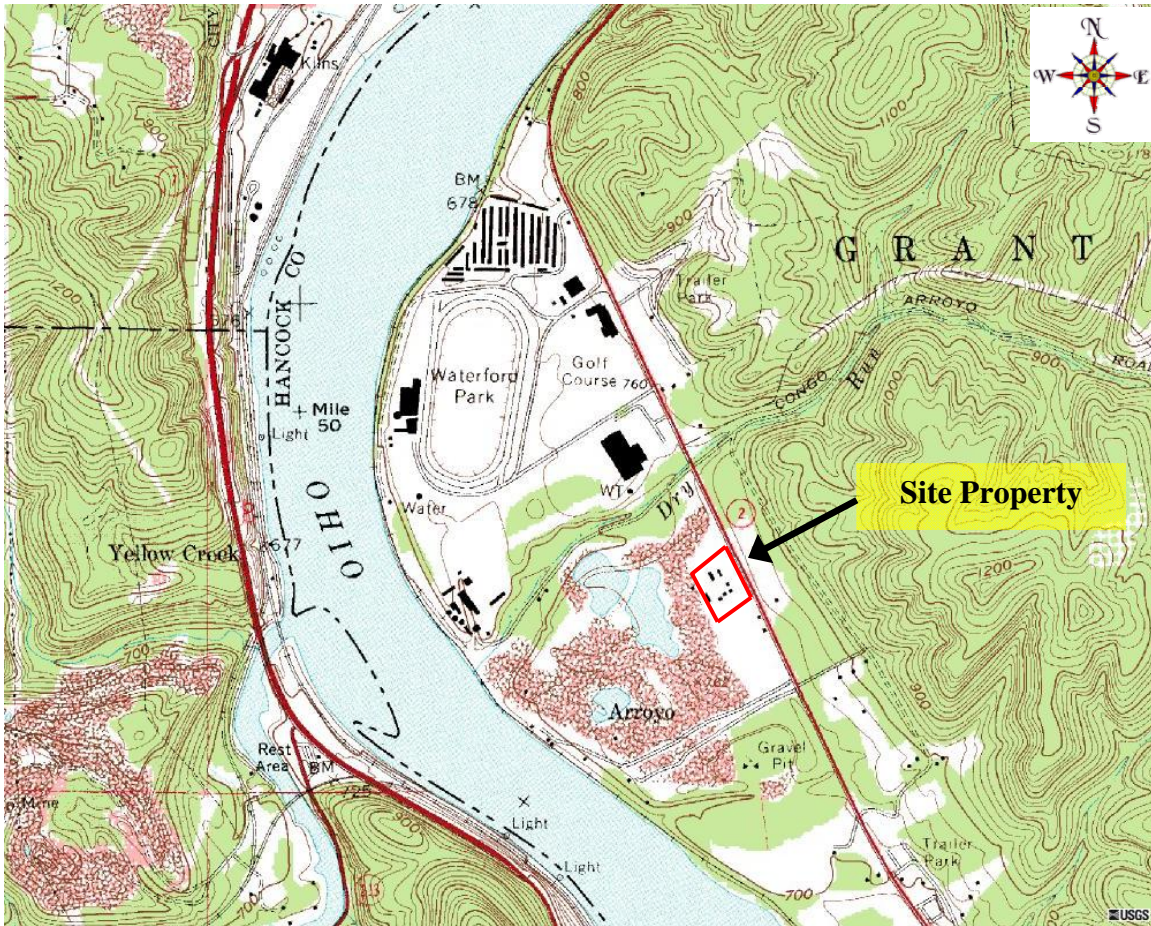


Figure 1. Site Location Map (USGS)

## 1.2 History of the Property

The Site Property is occupied by Deltech Custom Facility which currently manufactures resins for the production of paints. The Site has performed custom organic chemical manufacturing, solvent recovery and drying, as well as production of powder biocides since the mid 1960's under various owners.

The Site was entered into the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in February 1983 following RCRA (Resource Conservation and Recovery Act) inspections that revealed numerous waste handling violations. Therefore, the Site is also referred to as Thiokol-Specialty Chemical Division

CERCLIS Site with site designation WVD074968413. The 2009 groundwater sampling event was performed due to a consent order issued by the US EPA. Photographs depicting the Site are provided as **Appendix 1, Site Property Photographs**.

### ***1.3 Adjoining Property***

Properties that adjoin the Site are as follows:

- White Oak Run which discharges to Dry Run, a tributary of the Ohio River; Marsh Bellofram Corporation, a manufacturer of air regulators, electro-pneumatic transducers, air cylinders, diaphragm seals, gauges, and thermometers; and the Mountaineer Race Track and Gaming Resort to the north/northwest,
- BOC Gases, a division of the BOC Group, which produces and transports liquid petroleum gas, to the west,
- A gravel quarry with associated surface water ponds and the Ohio River to the west/southwest,
- A former asphalt plant to the south/southeast; and
- WV State Route 2, a former gasoline station, and commercial establishment to the east.

## **2.0 ESA ACTIVITIES**

### ***2.1 Scope of Assessment***

The scope of assessment was based on the consent order issued by the US EPA which requested the groundwater sampling of the existing eighteen groundwater monitoring wells.

## **2.2 Field Explorations and Methods**

Sampling activities were performed at the Site on November 30 and December 1, 2009. The sampling team consisted of TRIAD personnel Julie Szymanek, Lydia Work, and Carol Phillips. The weather at the Site Property during sampling was cold and windy with temperatures in the mid 30° Fahrenheit.

Twenty groundwater samples were collected from seventeen groundwater monitoring wells. The groundwater wells are located on the Deltech property (On-Site Wells) and on the adjoining property owned by Mountaineer Race Track and Gaming Resort (Off-Site Well). The wells located on Mountaineer Race Track Property have the prefix “MP” denoted before the well number. The monitoring well logs are provided in **Appendix 2, Monitoring Well Logs**. The monitoring well locations are depicted on **Figure 2, Off-Site Sample Location Map** and **Figure 3, On-Site Sample Location Map**. The sample log sheets designed for field notes are provided in **Appendix 3, Sample Log Sheets**.

Prior to sampling, the monitoring wells were purged by removing a minimum of three well volumes with either a clean disposal weighted bailer or a pump. The samples collected for dissolved metals were field filtered using a 0.45 micron pore size filter and preserved with nitric acid to a pH of <2. The VOC samples were preserved with hydrochloric acid (HCL) and placed on ice in the field immediately following collection.

One quality control pair (MS/MSD) and one field duplicate (FD) sample were collected from MW-MP7 and referred to as MW-MP7 MS, MW-MP7 MSD, and MW-MP70 FD on the chain of custody (COC) in addition to a trip blank sample. MW-MP6, MW-MP7, MW-1A, MW-1D, MW-2, MW-2D, MW-7, MW-MP7 MS, MW-MP7 MSD, and MW-MP70 FD were lab analyzed for dissolved-phase metals and VOCs. MW-MP1, MW-MP2, MW-MP3, MW-MP4, MW-MP5, MW-MP8, MW-8, MW-4A, MW-3AR, and MW-5A were lab analyzed for dissolved-phase metals only.

The samples were hand delivered to the laboratory with appropriate chain of custody documentation by TRIAD personnel on December 2, 2008. The samples were analyzed for VOCs by USEPA method 8260B and dissolved metals by USEPA method 6010B.

### **2.3    *Deviations from the Work Plan***

Groundwater was not collected from MW-6D due to the lack of groundwater. The depth to the bottom of the well in MW-6D was approximately 53 feet below ground surface. MW-6D is located in the area of the former emergency lagoon which is a potential source of contamination.

### **2.4    *Chemical Testing Plan***

Due to the history of the Site Property as a custom organic chemical manufacturing facility and previous environmental assessments; volatile organic compounds (VOCs), 40CFR Part 146 Appendix IX Groundwater List, and dissolved-phased metals specifically; aluminium, arsenic, iron, manganese, lead, thallium, and vanadium were considered contaminants of potential concern (COPC) at the Site.

The environmental media collected was submitted to a West Virginia certified laboratory for analysis. The laboratory selected was TestAmerica located in Pittsburgh, PA.

### **2.5    *Data Validation***

The laboratory provided a CLP-like data deliverable for data validation. Data representing 100% of data generated within the scope of the project were examined relative to the method requirements specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3<sup>rd</sup> Edition* (SW-846) and the data quality objectives (DQO's) provided by the laboratory.

Analytical data derived from this investigation were validated and determined to meet the data quality objectives as specified in the *QAPP*. As such, data collected during the field sampling activities could be used to characterize the Site as well as to prepare a Human Health and Ecological Risk Assessment for the project. A copy of the data validation report including the laboratory analytical data sheets is presented in **Appendix 4, Data Validation Report**.

### **3.0 EVALUATION AND PRESENTATION OF RESULTS**

#### **3.1 *Site Property Topography, Hydrology, and Geology***

Based on review of the United States USGS 7.5-minute topographic quadrangle map of Wellsville, Ohio-W.Va., presented as **Figure 1, Site Location Map**, the slope of the Site Property is level and slopes down gradient toward the adjoining property and the Ohio River to the west. Therefore, groundwater at the Site would naturally flow west toward the Ohio River.

Based on the current well observations, a graph depicting the groundwater elevations in the monitoring wells compared to the top of well casing elevations is provided on the attached **Figure 4, Cross-Section Model of Groundwater Elevations**. The wells are depicted primarily from northwest near the Ohio River to the eastern portion of the Site where the background wells are located. According to the graph, groundwater slopes toward the Ohio River. The slope of the groundwater table at the Site generally mimics the slope of the land surface.

A table summarizing the depth to the bottom of each well, the depth to the groundwater in each well, the top of the casing elevation of each well, and the actual groundwater elevation for each well is attached as **Table 7, Monitoring Well Observations**.

According to the *Soil Survey of Brooke, Hancock and Ohio Counties, West Virginia*, the Site cover is cut and fill land, mostly mixed soil material from excavated, graded, or filled areas. The northern and western edges of the Site

may extend into a former gravel pit area. The local natural soil cover adjacent to the Site is the Lakin loamy sand, which are deep, excessively drained soils on terraces along the Ohio River. Permeability is rapid and moisture capacity is low allowing for rapid fate and transport of COCs. Lakin soils are formed from alluvial and wind-blown materials, underlain by sand and gravel.

According to the *Geology of the Ohio River Valley in West Virginia, Part I*, the Site lies within the Appalachian Plateaus Physiographic Province on the 500 year flood plain of the Ohio River. It is underlain by Cenozoic Quaternary alluvium consisting of sand, gravel, silt, and clay. Coarse sand and gravel are found in lower portions of the alluvium. Lenticular beds of clay and silt are interbedded with the sand and gravel deposits. As a result, fate and transport of hydrophilic COCs in the alluvial aquifer would be expected to be rapid.

The Ohio River Valley is underlain by flat-lying bedrock covered with Wisconsin age alluvium. The main alluvial fill was deposited by the Ohio River when the Wisconsin continental glacier terminated in the northern part of the Ohio drainage basin. The glacier's melt waters discharged large amounts of glacial debris into the Ohio River. Below the alluvium is the Pennsylvanian Conemaugh Group, averaging 500 to 600 feet in thickness throughout the county. This group consists of cyclic sequences of red and gray shale, siltstone, and sandstone, with thin beds of limestone and coal. There are also thick red bed sequences. Locally, the sandstone is thin, due to the disappearance of some cyclothemic sequences.

### **3.2 Analytical Data**

The groundwater analytical results were compared to their respective US EPA Region III risk based concentrations (RBCs) for tapwater dated December 2009, USEPA Safe Drinking Water Maximum Contaminant Levels (MCL), and the



USEPA National Secondary Drinking Water Regulations. The groundwater laboratory analytical results are summarized on the attached **Tables**.

Arsenic (As), manganese (Mn), 1,2-dichloroethane, benzene, chloroform, and trichloroethene (TCE) had concentrations greater than their respective RBCs. However, chloroform was detected in background well MW-1A and should not be considered a contaminant of concern. Chlorobenzene and iron were detected above the laboratory CRDL but below the tapwater RBC. Therefore, As, Mn, 1,2-Dichloroethane, benzene, and TCE are considered contaminants of concern (COC).

The following is a summary of the results:

- Arsenic is greater than the RBC in MW-1D, MW-2D, MW-7, MW-MP2, MW-MP3, MW-MP4, MW-MP5, MW-MP6, and MW-MP7.
- Manganese is greater than the RBC in MW-2, MW-2D, MW-7, MW-8, MW-MP4, and MW-MP7.
- Benzene was greater than the RBC in MW-2 and MW-7.
- 1,2-Dichloroethane was greater than the RBC in MW-2, MW-7, and MW-MP7.
- Trichloroethene was greater than the RBC in MW-2D and MW-MP6.
- TCE was greater than the Safe Drinking Water MCL's in MW-MP6.
- Manganese was greater than the Secondary Safe Drinking Water MCL's in MW-MP4, MW-MP7, MW-MP6, MW-1D, MW-2, MW-2D, MW-7, and MW-8.

#### **4.0 CONCLUSIONS AND RECOMMENDATIONS**

TRIAD has performed groundwater monitoring at the property known as the Deltech Custom Facility (a.k.a. NewChem and Thiokol Specialty Chemicals) property located at 7743 Ohio River Boulevard in New Cumberland, Hancock

County, West Virginia.

Sampling was performed at the Site on November 30 and December 1, 2009. The general sampling locations, methods, and test parameters were selected based on the scope of work provided by Mr. Bill Wentworth, US EPA Project Manager, and current site conditions. The assessment included field sampling and laboratory analysis, data review/analysis, data validation, and report preparation.

To evaluate the Site groundwater samples were collected from seventeen existing monitoring wells including quality control samples. Monitoring Well (MW)-MP6, MW-MP7, MW-1A, MW-1D, MW-2, MW-2D, and MW-7 were lab analyzed for dissolved-phase metals and volatile organic compounds (VOCs). MW-MP1, MW-MP2, MW-MP3, MW-MP4, MW-MP5, MW-MP8, MW-8, MW-4A, MW-3AR, and MW-5A were lab analyzed for dissolved-phase metals only. MW-6D was not sampled due to lack of groundwater.

Based on the analytical results, TRIAD concludes the following:

- Groundwater has As, Mn, 1,2-dichloroethane, benzene, chloroform, and TCE concentrations greater than their respective RBCs and are considered COCs.
- Arsenic results do not confirm a defined plume or source.
- Manganese results depict a plume on the southwestern portion of the Site with the exception of MW-MP4 which is located near the Ohio River.
- Benzene, 1,2-dichloroethane, and TCE results confirm a groundwater plume on the southwestern portion of the Site.

Based on the results of the ESA, TRIAD recommends the following:

- Groundwater monitoring continues on the Site for As, Mn, 1,2-Dichloroethane, benzene, and TCE; and

- MW-6D should be overdrilled or a new groundwater monitoring well be installed at a depth to groundwater to further delineate the groundwater plume and source.
- TCE is above the Safe Drinking Water MCL in MW-MP6 due to an unknown source from the Site and is migrating off-site to the adjoining property to the west. Further environmental assessments are recommended to further delineate the TCE plume and monitor natural attenuation.
- Concentrations of dissolved phase manganese were detected above the Secondary Safe Drinking Water MCL. However, USEPA National Secondary Drinking Water Regulations are non-enforceable guidelines that only regulate contaminants that may cause cosmetic effects or aesthetic effects to the drinking water. Corrective action is not recommended at this time.



## FIGURES

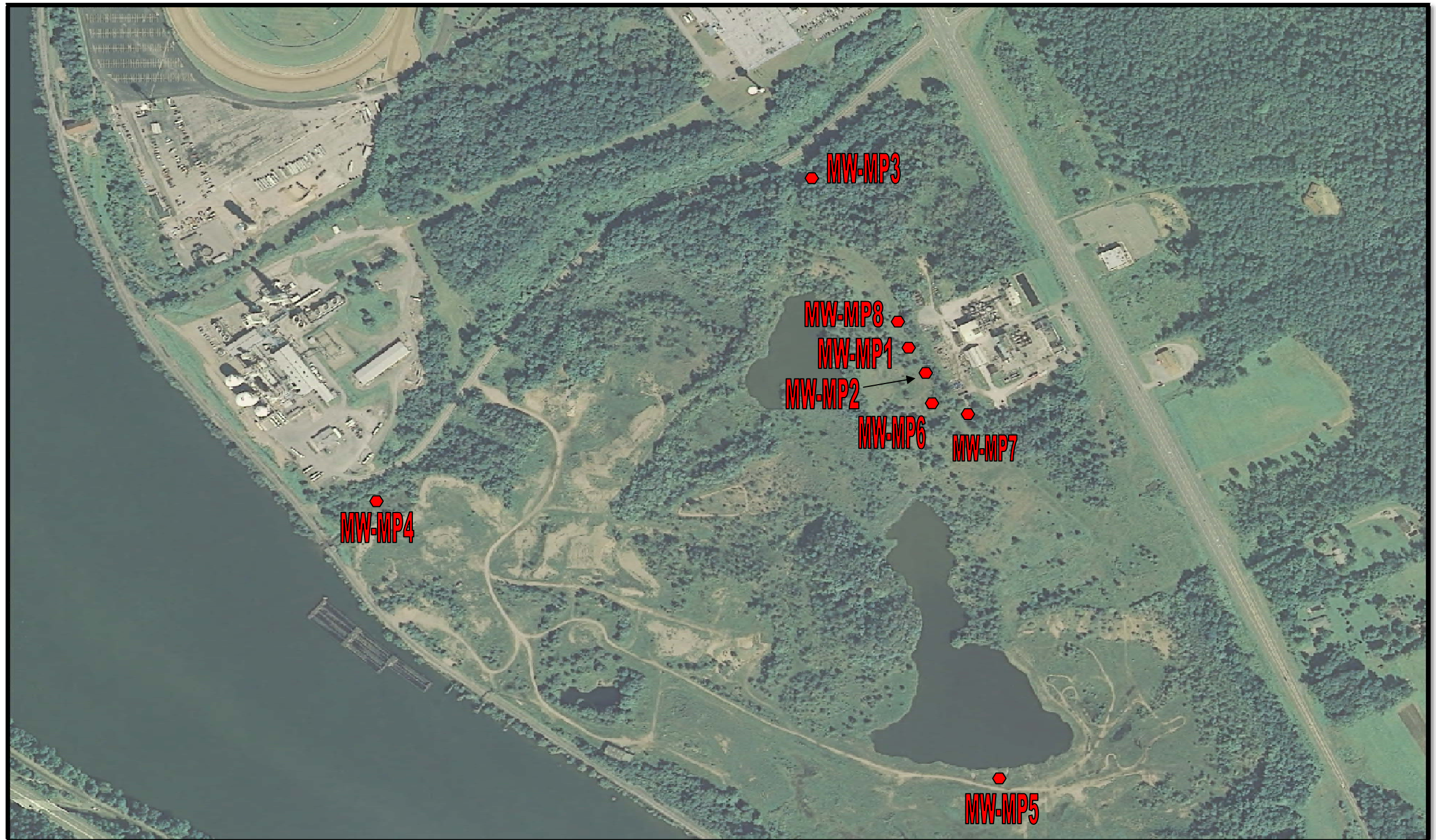


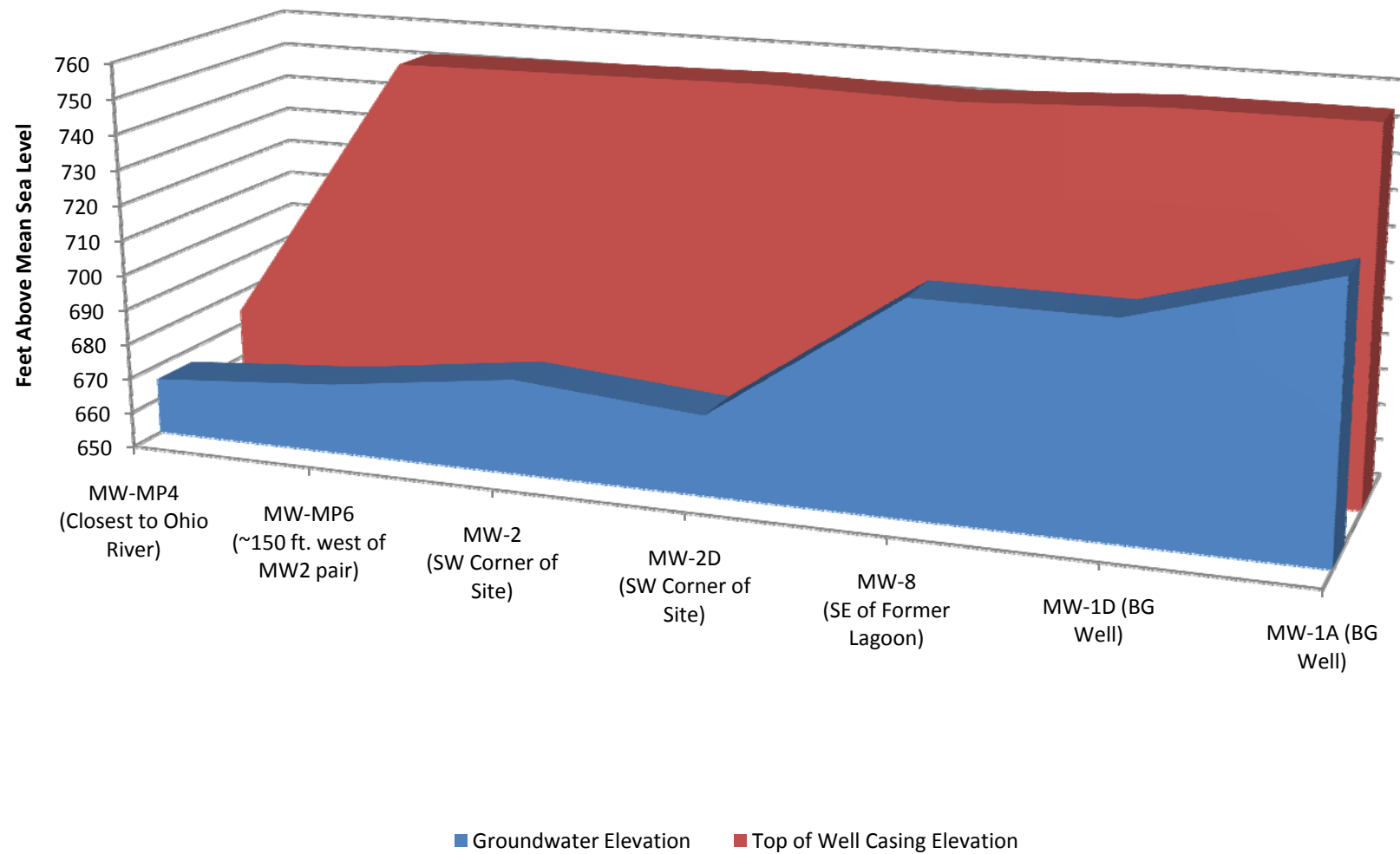
Figure 2, Off-Site Sample Location Map  
Monitoring Wells on Mountaineer Race Track Property  
Source: WVGIS aerial photograph 2007





Figure 3, On-Site Sample Location Map  
Monitoring Wells on Deltech Property  
Source: WVGIS aerial photograph 2007

**Figure 4. Cross-Section Model of Monitoring Wells (NW to SE)**





## **TABLES**



**Table 1. Occurrence, Distribution and Selection of COC's**  
**Groundwater: Mountaineer Race Track Property**  
**Deltech Custom Facility**  
**New Cumberland, Hancock County, West Virginia**

COPC	CRDL	Concentration (ug/L)						Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		MW-MP6	Q	MW-MP7	Q	MW-MP70 FD (FD of MW-MP7)	Q	Detects	Samples	Min (ug/L)	Max (ug/L)				
Volatile Organic Compounds															
Acetone	5	ND		ND		ND		0	3	ND	ND		NO	5	NO
Acetonitrile	20	ND		ND		ND		0	3	ND	ND		NO	20	NO
Acrolein	20	ND		ND		ND		0	3	ND	ND		NO	20	NO
Acrylonitrile	20	ND		ND		ND		0	3	ND	ND		NO	20	NO
Allyl chloride	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Benzene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Bromodichloromethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Bromoform	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
2-Butanone	5	ND		ND		ND		0	3	ND	ND		NO	5	NO
Carbon disulfide	1	0.41	J	ND		ND		1	3	0.41	0.41	1000 <sup>1</sup>	NO	1	NO
Carbon tetrachloride	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Chlorobenzene	1	ND		0.94	J	0.99	J	2	3	0.94	0.99	91 <sup>1</sup>	NO	1	NO
Chloroethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Chloroform	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Chloromethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Chloroprene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Dibromochloromethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,2-Dibromo-3-chloropropane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,2-Dibromoethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Dibromomethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
trans-1,4-Dichloro-2-butene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Dichlorodifluoromethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,1-dichloroethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,2-Dichloroethane	1	ND		2.4		2.6		2	3	2.4	2.6	0.15 <sup>1</sup>	YES	1	NO
1,1-dichloroethene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
trans-1,2-Dichloroethene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,2-Dichloropropane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
cis-1,3-Dichloropropene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
trans-1,3-Dichloropropene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,4-Dioxane	200	ND		ND		ND		0	3	ND	ND		NO	200	NO
Ethylbenzene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Ethyl methacrylate	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
2-Hexanone	5	ND		ND		ND		0	3	ND	ND		NO	5	NO
Iodomethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Isobutyl alcohol	40	ND		ND		ND		0	3	ND	ND		NO	40	NO
Methacrylonitrile	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Methylene chloride	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Methyl methacrylate	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
4-Methyl-2-pentanone (MIBK)	5	ND		ND		ND		0	3	ND	ND		NO	5	NO
Propionitrile	2	ND		ND		ND		0	3	ND	ND		NO	2	NO
Styrene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,1,1,2-Tetrachloroethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,1,2,2-Tetrachloroethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Tetrachloroethene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Toluene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,1,1-Trichloroethane	1	0.39	J	ND		ND		1	3	0.39	0.39	9,100 <sup>1</sup>	NO	1	NO
1,1,2-Trichloroethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Trichloroethene	1	35		0.62	J	0.69	J	2	3	0.62	35	2 <sup>1</sup>	YES	1	YES
Trichlorofluoromethane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
1,2,3-Trichloropropane	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Vinyl acetate	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
Vinyl chloride	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
o-Xylene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO
m-Xylene and p-Xylene	1	ND		ND		ND		0	3	ND	ND		NO	1	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> USEPA Region 3 Tapwater Risk Based Concentrations, December 2009.

Q Qualifiers

B Result estimated due to laboratory contamination.

J Result is below CRDL but above the Method Detection Limit.

BG Site specific background location not collected, CRDLs used for HRS Observed Release determination.

**Table 2. Occurrence, Distribution and Selection of COC's**  
**Groundwater: Deltech Property**  
**Deltech Custom Facility**  
**New Cumberland, Hancock County, West Virginia**

COPC	CRDL	Concentration (ug/L)										Frequency		Concentration (ug/L)		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?	
		MW-1A	Q	MW-1D	Q	MW-2	Q	MW-2D	Q	MW-7	Q	TRIP BLANK	Detects	Samples	Min					Max
Volatile Organic Compounds																				
Acetone	5	ND		ND		8.5		ND		6.6	J	ND	2	6	6.6	8.5	22,000 <sup>1</sup>	NO	5	NO
Acetonitrile	20	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	20	NO
Acrolein	20	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	20	NO
Acrylonitrile	20	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	20	NO
Allyl chloride	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Benzene	1	ND		ND		0.57	J	0.27	J	3.2		ND	3	6	0.27	3.2	0.41 <sup>1</sup>	YES	1	YES
Bromodichloromethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Bromoform	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
2-Butanone	5	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	5	NO
Carbon disulfide	1	ND		ND		0.33	J	ND		1.8	J	ND	2	6	0.33	1.8	1000 <sup>1</sup>	NO	1	NO
Carbon tetrachloride	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Chlorobenzene	1	ND		ND		6.5		3.1		45		ND	3	6	3.1	45	91 <sup>1</sup>	NO	1	YES
Chloroethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Chloroform	1	0.48	J	ND		ND		ND		ND		ND	1	6	0.48	0.48	0.19 <sup>1</sup>	YES	1	NO
Chloromethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Chloroprene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Dibromochloromethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,2-Dibromo-3-chloropropane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,2-Dibromoethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Dibromomethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
trans-1,4-Dichloro-2-butene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Dichlorodifluoromethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,1-dichloroethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,2-Dichloroethane	1	ND		ND		0.42	J	ND		0.99	J	ND	2	6	0.42	0.99	0.15 <sup>1</sup>	YES	1	NO
1,1-dichloroethene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
trans-1,2-Dichloroethene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,2-Dichloropropane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
cis-1,3-Dichloropropene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
trans-1,3-Dichloropropene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,4-Dioxane	200	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	200	NO
Ethylbenzene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Ethyl methacrylate	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
2-Hexanone	5	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	5	NO
Iodomethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Isobutyl alcohol	40	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	40	NO
Methacrylonitrile	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Methylene chloride	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Methyl methacrylate	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
4-Methyl-2-pentanone (MIBK)	5	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	5	NO
Propionitrile	2	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	2	NO
Styrene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,1,1,2-Tetrachloroethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,1,2,2-Tetrachloroethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Tetrachloroethene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Toluene	1	ND		ND		0.16	J	ND		ND		ND	1	6	0.16	0.16	2,300	NO	1	NO
1,1,1-Trichloroethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,1,2-Trichloroethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Trichloroethene	1	ND		ND		0.4	J	3.6		ND		ND	2	6	0.4	3.6	2 <sup>1</sup>	YES	1	YES
Trichlorofluoromethane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
1,2,3-Trichloropropane	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Vinyl acetate	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
Vinyl chloride	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
o-Xylene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO
m-Xylene and p-Xylene	1	ND		ND		ND		ND		ND		ND	0	6	ND	ND		NO	1	NO

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

<sup>1</sup> USEPA Region 3 Tapwater Risk Based Concentrations, December 2009.

Q Qualifiers

B Result estimated due to laboratory contamination.

J Result is below CRDL but above the Method Detection Limit.

BG Site specific background location not collected. CRDLs used for HRS Observed Release determination.

Table 3. Occurrence, Distribution and Selection of COC's and HRS Observed Releases																											
Groundwater: Mountaineer Race Track Property																											
Deltech Custom Facility																											
New Cumberland, Hancock County, West Virginia																											
COPC	CRDL	Concentration (ug/L)																		Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		MW-MP1	Q	MW-MP2	Q	MW-MP3	Q	MW-MP4	Q	MW-MP5	Q	MW-MP6	Q	MW-MP7	Q	MW-MP70 FD (FD OF MW-MP7)	Q	MW-MP8	Q	Detects	Samples	Min (ug/L)	Max (ug/L)				
Dissolved-Phase Metals																											
Aluminun	30	ND		ND		ND		ND		ND		ND		ND		ND		ND		0	8	ND	ND	37000 <sup>1</sup>	NO	30	NO
Arsenic	1	ND	J	0.51	J	0.98	J	3.4		0.84	J	0.31	J	5.5		4.8		ND		7	8	0.31	5.5	0.045 <sup>1</sup>	YES	1	YES
Iron	50	272		11.3	J	21	J	481		ND		29.9	J	12200		12400		ND		7	8	11.3	12400	26000 <sup>1</sup>	NO	50	YES
Manganese	0.5	30.1		2.2		12.7		1590		1.8		448		1580		1600		1		9	8	1	1600	880 <sup>1</sup>	YES	0.5	YES
Lead	1	0.032	J	ND	J	0.069	BJ	0.079	J	0.098	J	0.049	J	0.048	J	ND		ND		6	8	0.032	0.098	15 <sup>2</sup>	NO	1	NO
Thallium	1	0.063	BJ	0.075	BJ	0.062	BJ	0.097	BJ	0.15	BJ	0.048	BJ	0.022	BJ	0.17	BJ	0.032	BJ	9	8	0.022	0.17	2 <sup>2</sup>	NO	1	NO
Vanadium	1	1.4	B	0.43	BJ	ND		0.37	BJ	0.64	BJ	1.6	B	1.2	B	1.8	B	1.6	B	8	8	0.37	1.8	180 <sup>1</sup>	NO	1	NO

**NOTES:**  
 ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).  
 NA Not Applicable or available.  
 CRDL Contract Required Detection Limit  
 1 USEPA Region III, Tap Water RBCs, December 2009.  
 BG No site-specific background sample. CRDL's are used for BG.  
 Q Qualifiers  
 B Result estimated due to laboratory contamination.  
 J Result is below CRDL but above the Method Detection Limit.

Table 4. Occurrence, Distribution and Selection of COC's and HRS Observed Releases																											
Groundwater: Deltech Property																											
Deltech Custom Facility																											
New Cumberland, Hancock County, West Virginia																											
COPC	CRDL	Concentration (ug/L)																		Frequency		Concentration		Action Level Concentration (ug/L)	COC ?	Background Concentration (ug/L)	HRS Observed Release?
		MW-1A	Q	MW-1D	Q	MW-2	Q	MW-2D	Q	MW-3AR	Q	MW-4A	Q	MW-5A	Q	MW-7	Q	MW-8	Q	Detects	Samples	Min (ug/L)	Max (ug/L)				
Dissolved-Phase Metals																											
Aluminun	30	ND		ND		ND		ND		ND		ND		10.2	J	ND		ND		1	8	ND	ND	37000 <sup>1</sup>	NO	30	NO
Arsenic	1	ND		0.99	J	ND		2.3		0.4	J	ND		ND		8.8		0.4	J	5	8	0.4	8.8	0.045 <sup>1</sup>	YES	1	YES
Iron	50	59.5		4180		267		1440		ND		37.5	J	19.3	J	7310		202		8	8	19.3	7310	26000 <sup>1</sup>	NO	50	YES
Manganese	0.5	15.2		620		3800		1580		12.2		26.6		19		3750		1710		9	8	12.2	3800	880 <sup>1</sup>	YES	0.5	YES
Lead	1	0.036	J	ND		0.027	J	ND		0.07	J	0.034	J	ND		0.023	J	ND		5	8	0.023	0.07	15 <sup>2</sup>	NO	1	NO
Thallium	1	0.039	BJ	0.036	BJ	ND		ND		ND		ND		ND		ND		0.03	BJ	3	8	0.03	0.039	2 <sup>2</sup>	NO	1	NO
Vanadium	1	1.2	B	ND		0.43	BJ	0.84	BJ	0.73	BJ	0.6	BJ	1.1	B	1.2	B	0.33	BJ	8	8	0.33	1.2	180 <sup>1</sup>	NO	1	NO

NOTES:

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Region III, Tap Water RBCs, December 2009.

BG No site-specific background sample. CRDL's are used for BG.

Q Qualifiers

B Result estimated due to laboratory contamination.

J Result is below CRDL but above the Method Detection Limit.

**Table 5. COC's Compare to MCL's.**  
**Deltech Custom Facility**  
**New Cumberland, Hancock County, West Virginia**

COPC	CRDL	Concentration (ug/L)							MCL (ug/L)
		MW-MP6	MW-MP7	MW-MP70 FD (FD of MW-MP7)	MW-1A	MW-2	MW-2D	MW-7	
Volatile Organic Compounds									
Benzene	1	ND	ND	ND	ND	0.57	0.27	3.2	5
1,2-Dichloroethane	1	ND	2.4	2.6	ND	0.42	ND	0.99	5
Trichloroethene	1	35	0.62	0.69	ND	0.4	3.6	ND	5

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

CRDL Contract Required Detection Limit

<sup>1</sup> USEPA Safe Drinking Water Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. EPA 816-F-09-0004, May 2009.

Concentrations above the MCL.

**Table 6. COC's Compared to MCL's.**  
**Deltech Custom Facility**  
**New Cumberland, Hancock County, West Virginia**

COPC	CRDL	MW-MP2	MW-MP3	MW-MP4	MW-MP5	MW-MP6	MW-MP7	MW-MP70 FD (FD OF MW-MP7)	MW-1D	MW-2	MW-2D	MW-7	MW-8	MCL (ug/L)
<b>Dissolved-Phase Metals</b>														
Arsenic	1	0.51	0.98	3.4	0.84	0.31	5.5	4.8	0.99	ND	2.3	8.8	0.4	10 <sup>1</sup>
Manganese	0.5	2.2	12.7	1590	1.8	448	1580	1600	620	3800	1580	3750	1710	50 <sup>2</sup>

**NOTES:**

ND Not detected at a concentration greater than the Contract Required Detection Limit (CRDL).

NA Not Applicable or available.

CRDL Contract Required Detection Limit

1 USEPA Safe Drinking Water Maximum Contaminant Level (MCL) - The highest level of a contaminant that is allowed in drinking water. EPA 816-F-09-0004, May 2009.

2 USEPA National Secondary Drinking Water Regulations are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color). Noticeable effects above the Secondary MCL of Manganese are black to brown color; black staining; bitter metallic taste. EPA 810/K-92-001, July 1992.

Concentrations above the MCL.

**Table 7. Monitoring Well Observations  
Deltech Custom Facility  
New Cumberland, West Virginia**

<b>MONITORING WELLS</b>	<b>DEPTH TO BOTTOM</b>	<b>DEPTH TO GROUNDWATER</b>	<b>TOP OF CASING ELEVATION</b>	<b>GROUNDWATER ELEVATION</b>
	Feet Below Ground Surface		Feet above msl	
MW-MP1	72.42	71.73	748.68	676.95
MW-MP2	80	65.58	746.36	680.78
MW-MP3	16.61	10.23	714.21	703.98
MW-MP4	15.96	8.15	673.95	665.8
MW-MP5	15.26	12.5	678.33	665.83
MW-MP6	87	82.61	752.4	669.79
MW-MP7	90	78.15	746.18	668.03
MW-MP8	65.7	59.12	751.12	692
MW-1A	30	28.92	754.59	725.67
MW-1D	52.4	44.73	754.68	709.95
MW-2	80	76.15	752.99	676.84
MW-2D	92	81.2	753.7	672.5
MW-3AR	70	66	755.43	689.43
MW-4	77	69.88	754.22	684.34
MW-5A	70	55.28	752.04	696.76
MW-6D	56	DRY	751.62	751.62
MW-7	50	46.1	751.98	705.88
MW-8	50	42.33	752.42	710.09



**APPENDIX 1**

**SITE PROPERTY PHOTOGRAPHS**





**Photograph # 1:**  
View of Site looking north towards MW-7.



**Photograph # 2:**  
View of MW-1 and MW-1D.





**Photograph # 3:**  
View looking south towards MW-8.



**Photograph # 4:**  
View of MW-6D looking west.





**Photograph # 5:**  
View of MW-2 and MW-2D.



**Photograph # 6:**  
View of MW-4 looking northwest.





**Photograph # 7:**  
View of MW-3AR looking northwest.



**Photograph # 8:**  
View of MW-MP3 looking north.





**Photograph # 9:**  
View of MW-MP6 looking west.



**Photograph # 10:**  
View of the adjoining property to the west.





**Photograph # 11:**  
View of MW-7 looking northeast.



**Photograph # 12:**  
View of MW-MP5 looking northwest.



## **APPENDIX 2**

### **MONITORING WELL LOGS**

# MONITORING WELL COMPLETION LOG

WELL NO. \_\_\_\_\_

**MW-1A**

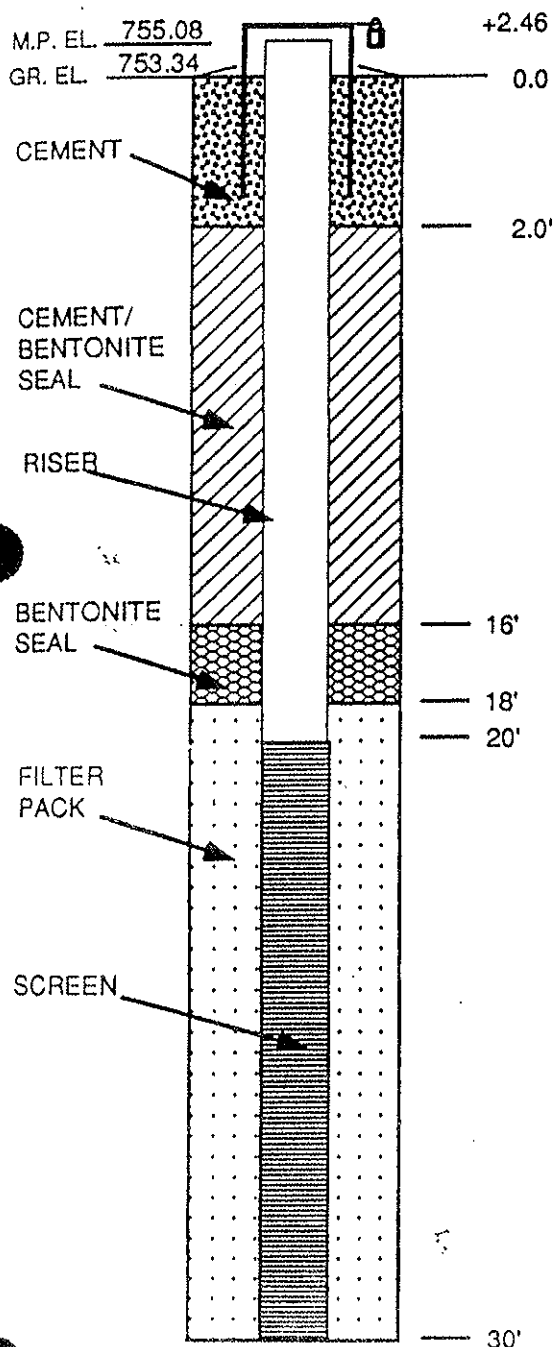
MW-1



**Dunn Corporation**  
12 Metro Park Road  
Albany, NY 12205  
(518) 458-1313

Project Newell Specialty Chemicals  
Client MIC  
Location Newell, West Virginia  
Project No. 03020-02470  
Date Drilled 5/11/92  
Date Developed 5/16/92

## WELL CONSTRUCTION DETAIL



NOT TO SCALE

## INSPECTION NOTES

Inspector Mark A. Williams  
Drilling Contractor Pennsylvania Drilling Company, Inc.  
Type of Well Environmental Monitoring Well  
Static Water Level 23.57' Date 5/16/92  
Measuring Point (M.P.) Top of PVC  
Total Depth of Well 30'

Drilling Method  
Type Hollow Stem Auger Diameter 4 1/4" I.D.  
Casing Steel

Sampling Method  
Type Split Spoon Diameter 2"  
Weight 140# Fall 30"  
Interval 0.0 to 20.0' (Continuous)

Riser Pipe Left in Place  
Material Sch 40 PVC Diameter 2"  
Length 22.46' Joint Type Flush Threaded

Screen  
Material Sch 40 PVC Diameter 2"  
Slot Size 0.010 inch Length 10'  
Stratigraphic Unit Screened Sand

Filter Pack  
Sand X Gravel \_\_\_\_\_ Natural \_\_\_\_\_  
Grade Best Silica 430 Grade  
Amount 4 1/4 Bags Interval 18' - 30'

Seal(s)  
Type Cement Interval 0 - 2'  
Type Cement/Bentonite Interval 2' - 16'  
Type Bentonite Interval 16' - 18'

Locking Casing ☒ Yes ☐ No

Notes:



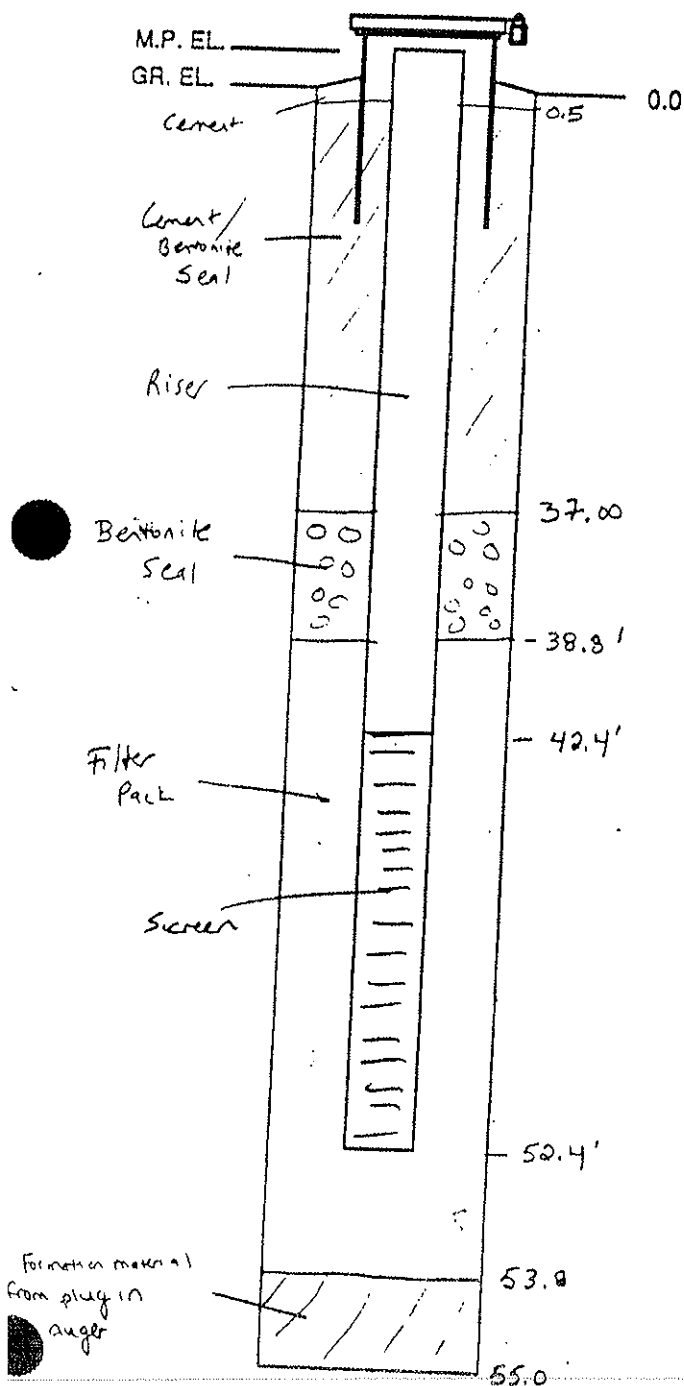
# MONITORING WELL COMPLETION LOG WELL NO. MW-1D



**Dunn Corporation**  
12 Metro Park Road  
Albany, NY 12205  
(518) 458-1313

Project Newell Specialty Chemicals  
Client MIC  
Location Newell, West Virginia  
Project No. 03020-02478  
Date Drilled 6/22/92  
Date Developed \_\_\_\_\_

## WELL CONSTRUCTION DETAIL



NOT TO SCALE

## INSPECTION NOTES

Inspector Helen Mongillo  
Drilling Contractor Pennsylvania Drilling Company  
Type of Well Environmental Monitoring well  
Static Water Level \_\_\_\_\_ Date \_\_\_\_\_  
Measuring Point (M.P.) Top of PVC  
Total Depth of Well 52.4'  
Total Depth of Boring 55'  
Drilling Method  
Type Hollow Stem Auger Diameter 4 1/4" ID.  
Casing Steel  
Sampling Method  
Type Split Spoon Diameter 2" OD.  
Weight 140 # Fall 30"  
Interval Standard 5' interval  
Riser Pipe Left in Place  
Material Sch. 40 PVC Diameter 2" I.D.  
Length ~44' Joint Type Flush Threaded  
Screen  
Material Sch. 40 PVC Diameter 2" I.D.  
Slot Size 0.010-inch Length 10'  
Stratigraphic Unit Screened Weathered Sandstone Bedrock  
Filter Pack  
Sand X Gravel \_\_\_\_\_ Natural \_\_\_\_\_  
Grade 1020 (Morris Grade 0 Equivalent)  
Amount \_\_\_\_\_ Interval 38.8-53.8  
Seal(s)  
Type Cement Interval 0-0.5'  
Type Cement/Bentonite Interval 0.5-37'  
Type Bentonite Interval 37.0-38.8'  
Locking Casing ☒ Yes ☐ No  
Notes:

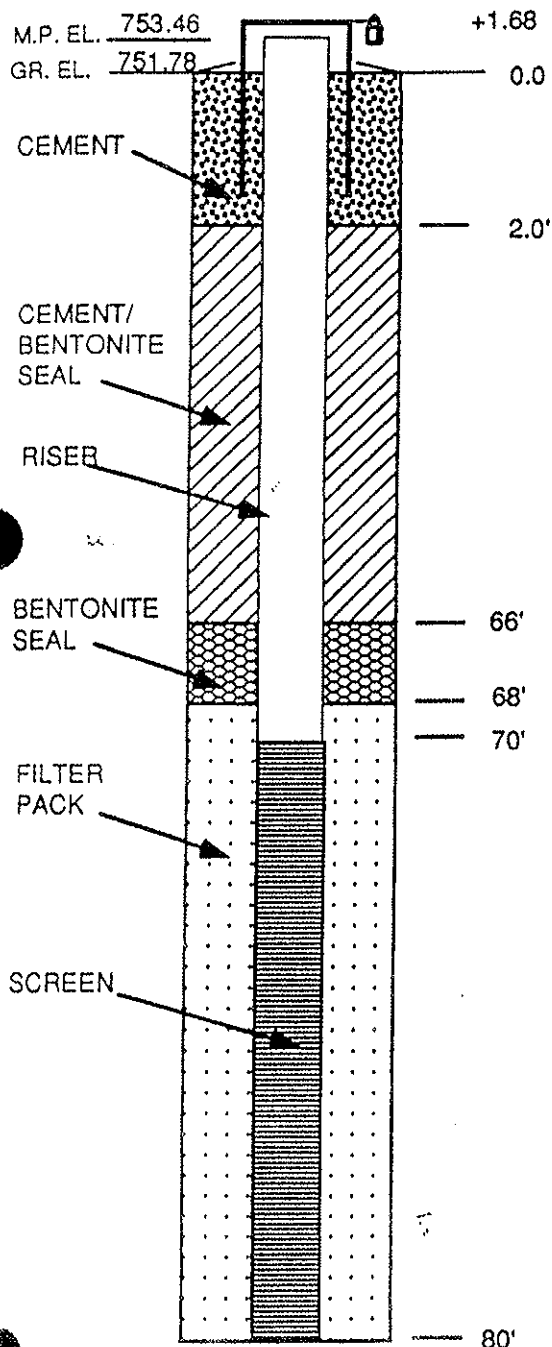
# MONITORING WELL COMPLETION LOG WELL NO. MW-2



**Dunn Corporation**  
12 Metro Park Road  
Albany, NY 12205  
(518) 458-1313

Project Newell Specialty Chemicals  
Client MIC  
Location Newell, West Virginia  
Project No. 03020-02470  
Date Drilled 5/12/92  
Date Developed 5/16/92

## WELL CONSTRUCTION DETAIL



NOT TO SCALE

## INSPECTION NOTES

Inspector Mark A. Williams  
Drilling Contractor Pennsylvania Drilling Company, Inc.  
Type of Well Environmental Monitoring Well  
Static Water Level 76.36' Date 5/16/92  
Measuring Point (M.P.) Top of PVC  
Total Depth of Well 80'

Drilling Method  
Type Hollow Stem Auger Diameter 4 1/4" I.D.  
Casing Steel

Sampling Method  
Type Split Spoon Diameter 2"  
Weight 140# Fall 30"  
Interval 0.0 to 20.0' (Continuous), 80' - 82'

Riser Pipe Left in Place  
Material Sch 40 PVC Diameter 2"  
Length 71.68' Joint Type Flush Threaded

Screen  
Material Sch 40 PVC Diameter 2"  
Slot Size 0.010 inch Length 10'  
Stratigraphic Unit Screened Sand


Filter Pack  
Sand X Gravel        Natural         
Grade 430  
Amount 4 1/4 Bags Interval 68' - 80'

Seal(s)  
Type Cement Interval 0 - 2'  
Type Cement/Bentonite Interval 2' - 66'  
Type Bentonite Interval 66' - 68'

Locking Casing ☒ Yes ☐ No

Notes:

# NewChem MW-2D

 Civil & Environmental Consultants, Inc.		PROJECT ID: NEWCHEM BORING/WELL #: MW-2D PROJECT #: 211347 PAGE 1 of 3
DATE STARTED: 1/27/03	COMPLETED: 1/29/03	WELL INSTALLED: YES <input type="checkbox"/> NO <input type="checkbox"/>
DRILLING CO: TERRA TESTING		WELL HEAD STICKUP (ft): ABOVE <input type="checkbox"/> BELOW <input type="checkbox"/>
DRILLER: E. WITKOWSKI	CEC REP: R. MCHALE	OUTER CASING: NA
DRILLING METHOD: HSA		DEVELOPMENT METHOD: BAIL / PUMP
BOREHOLE DIA: 8 1/4"		RESULTS: CLEAR
CORE SIZE: NA		YIELD: > 1 GPM
BACKFILL: NA		SURFACE PROTECTION: STEEL CASING/ CONCRETE TO 30"
AIR MONITORING INST: PID / FID		WATER LEVELS (ft TOC or BGS)
CASING ELEVATION:		OPEN BORE HOLE @ COMPLETION: 85
GROUND ELEVATION:		OPEN BORE @ 85 HRS: 1
KEY #: 2043		WELL @ COMPLETION: 82
COMMENTS/PROBLEMS:		WELL ON 1/30/03 :
		WASTE HANDING (CUTTING, DRILLING FLUIDS, DEVELOPMENT WATER):
		Cuttings and development/ purge water drummed.

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
				0	Ground Surface		0	
1	75	3-6-5-2	0		ALLUVIUM			
2	100	2-5-5-7	0		Tan/ brown silty sand with trace rounded gravel, dry.			
3	75	5-5-4-3	0	5			-5	
4	75	3-4-4-5	0		Medium brown sand and gravel, gravel round, slightly moist.			
5	50	4-3-2-3	0	10			-10	
6	50	5-4-2-3	0				-15	
7	25	2-1-2-3	0	15			-20	
8	75	3-2-3-3	0				-25	
9	75	1-1-1-3	0	20			-30	
10	50	3-2-1-1	0				-35	
11	75	0-0-0-3	0	25				
12	40	5-5-6-6	0					
13	40	1-2-4-5	0	30				
14	50	3-5-5-5	0					
15	75	2-4-5-6	0	35				
16	40	3-3-4-3	0					
17	40	1-2-1-3	0					
18	75	2-2-2-4	0					

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BORING/WELL#: MW-2D  
 PROJECT #: 211347

# MW-2D con't

PROJECT #: 211347

BORING/WELL #: MW-2D

PAGE 2 of 3

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
18	75	2-2-2-4	0		Medium brown sand and gravel, gravel round, slightly moist.			
19	75	1-2-4-4	0					
20	75	3-5-6-8	0					
21	75	0-1-2-4	0	40			-40	
22	75	5-6-7-8	0					
23	60	15-29-30-15	0.3	45	Sand and rounded gravel, trace silt, slightly moist, upper contact sharp.		-45	
24	60	21-25-40-40	1.9/3.0					
25	75	12-41-45-48	1.5/3.9	50	<b>ALLUVIUM/ COLLUVIUM</b> Sand and sandstone fragments with trace silt, poorly sorted, slightly moist, rock fragments subround to round.		-50	
26	10	50/3	0.9/1.1					
27	50	9-20-30-15	0.3					
28	90	8-10-12-16	0	55	<b>ALLUVIUM</b> Fine to medium sand, slightly moist, upper contact missing, wet from 56.5 to 57.5.		-55	
29	90	5-5-6-10	0					
30	75	10-15-14-10	0	60	<b>ALLUVIUM/ COLLUVIUM</b> Orange/ brown silty sand and subangular to angular gravel, poorly sorted, upper contact sharp.		-60	
31	10	8-7-11-10	0					
32	80	8-13-13-16	0					
33	90	10-12-14-16	0	65			-65	
34	75	8-14-16-22	0					
35	50	11-16-22-25	0	70			-70	

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BORING/WELL#:  
PROJECT #:

# MW-2D con't

PROJECT #: 211347

BORING/WELL #: MW-2D

PAGE 3 of 3

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
36	NR	50/2	-					
37	100	15-13- 13-16	0					
38	75	6-11- 15-	0	75			-75	
39	100	6-4-4-6	0		ALLUVIUM Orange/ tan fine sand, wet, upper contact sharp.			
40	100	6-10-15-4	0	80			-80	
41	50	5-22- 22-	0					
42	40	8-21- 22-	0					
43	25	33-20- 25	0	85	RESIDIUM Very weathered sandstone, slightly moist, upper contact missing.		-85	
44	25	15-12- 10	0					
45	25	3-23- 25-	0	90			-90	
46	25	16-25- 48	0		BEDROCK Sandstone.			
47	10	12-42-50/4	0					
				95			-95	
				100			-100	
				105			-105	

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BORING/WELL #:  
PROJECT #:

# MONITORING WELL COMPLETION LOG

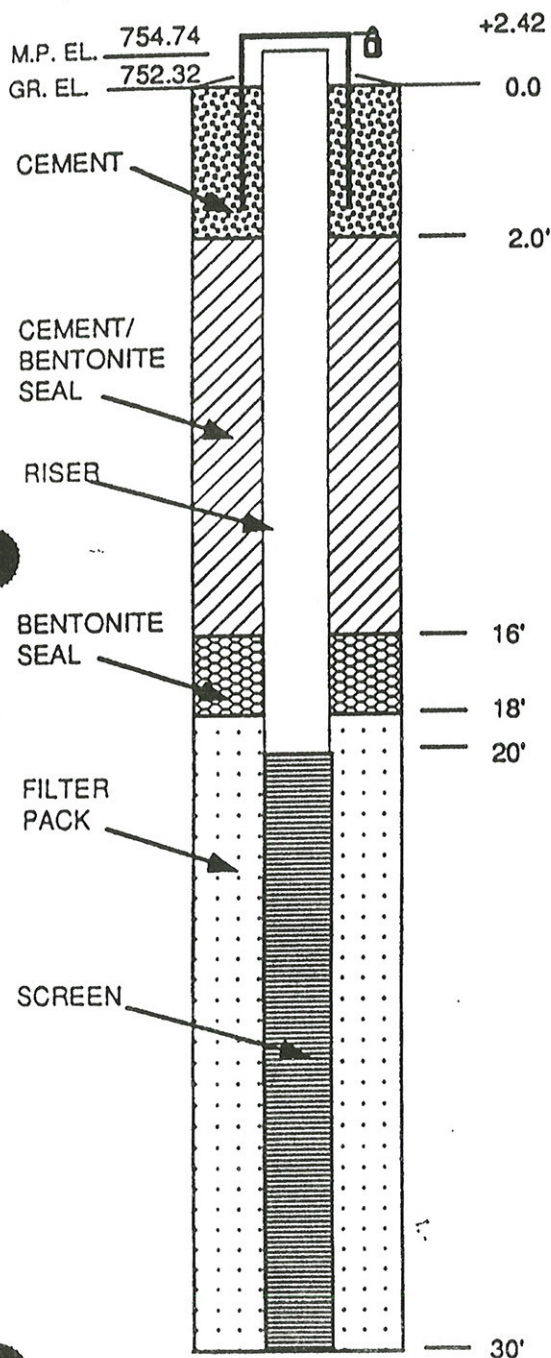
WELL NO. MW-3



**Dunn Corporation**  
12 Metro Park Road  
Albany, NY 12205  
(518) 458-1313

Project Newell Specialty Chemicals  
Client MIC  
Location Newell, West Virginia  
Project No. 03020-02470  
Date Drilled 5/13/92  
Date Developed N/A

## WELL CONSTRUCTION DETAIL



NOT TO SCALE

## INSPECTION NOTES

Inspector Mark A. Williams  
Drilling Contractor Pennsylvania Drilling Company, Inc.  
Type of Well Environmental Monitoring Well  
Static Water Level N/A Date 5/16/92  
Measuring Point (M.P.) Top of PVC  
Total Depth of Well 30'

Drilling Method  
Type Hollow Stem Auger Diameter 4 1/4" I.D.  
Casing Steel

Sampling Method  
Type Split Spoon Diameter 2"  
Weight 140# Fall 30"  
Interval 0.0 to 20.0' (Continuous)

Riser Pipe Left in Place  
Material Sch 40 PVC Diameter 2"  
Length 22.42' Joint Type Flush Threaded

Screen  
Material Sch 40 PVC Diameter 2"  
Slot Size 0.010 inch Length 10'  
Stratigraphic Unit Screened Sand

Filter Pack  
Sand X Gravel        Natural         
Grade 430  
Amount 4 Bags Interval 16' - 28'


Seal(s)  
Type Cement Interval 0 - 2'  
Type Cement/Bentonite Interval 2' - 14'  
Type Bentonite Interval 14' - 16'

Locking Casing ☒ Yes ☐ No

Notes:



# NewChem MW-3AR

 Civil & Environmental Consultants, Inc.		PROJECT ID: NEWCHEM	BORING/WELL #: MW-3AR
		PROJECT #: 211347 PAGE 1 of 2	
DATE STARTED: 1/24/03      COMPLETED: 1/27/03		WELL INSTALLED:      YES <input type="checkbox"/> NO <input type="checkbox"/>	
DRILLING CO: TERRA TESTING		WELL HEAD STICKUP (ft):      ABOVE <input type="checkbox"/> BELOW <input type="checkbox"/>	
DRILLER: E. WITKOWSKI      CEC REP: R. MCHALE		OUTER CASING: NA	
DRILLING METHOD: HSA		DEVELOPMENT METHOD: BAIL / PUMP	
BOREHOLE DIA: 8 1/4"		RESULTS: CLOUDY	
CORE SIZE: NA		YIELD: < 1 GPM	
BACKFILL: NA		SURFACE PROTECTION: STEEL COVER/ CONCRETE TO 30"	
AIR MONITORING INST: PID/ FID		WATER LEVELS (ft TOC or BGS)	
CASING ELEVATION:		OPEN BORE HOLE @ COMPLETION: 67	
GROUND ELEVATION:		OPEN BORE @ 67      HRS: 48	
KEY #: 2043		WELL @ COMPLETION: 67	
COMMENTS/PROBLEMS:		WELL ON 2/5/03      :	
		WASTE HANDLING (CUTTING, DRILLING FLUIDS, DEVELOPMENT WATER): Cuttings and development/ purge water drummed.	

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
				0	Ground Surface		0	
1	100	13-15-11-13	0		FILL / ALLUVIUM			
2	100	9-9-9-11	0		Slag to 0.5, topsoil to 1.0, then orange/ brown silty sand, slightly moist to 3.5'			
3	50	4-6-6-4	0	5	Silty sand and gravel, well rounded, poorly sorted, slightly moist.		-5	
4	50	3-3-5-4	0		Medium brown medium to fine sand, subround to round, trace gravel, slightly moist, upper contact missing.		-10	
5	50	3-2-4-5	0	10			-15	
6	50	3-3-2-3	0		Sand and gravel, round, slightly moist.		-20	
7	10	0-0-0-0	0	15			-25	
8	40	3-2-3-2	0		Medium to coarse round sand, trace gravel, moist.		-30	
9	25	1-1-2-3	0	20			-35	
10	10	1-2-2-3	0		Sand and gravel, round, moist.			
11	40	2-3-3-4	0	25				
12	20	3-4-4-4	0		Medium to fine sand, slightly moist.			
13	50	1-2-2-5	0	30				
14	50	6-7-8-8	0					
15	50	2-4-5-6	0	35				
16	75	4-4-7-7	0					
17	50	1-2-7-8	0					
18	75	5-6-8-7	0					

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BORING/WELL#: MW-3AR  
PROJECT #: 211347

PROJECT #: 211437

BORING/WELL #: MW-3AR

PAGE 2 of 2

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS ROD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
18	75	5-6-8-7	0		Medium to fine sand, slightly moist.			
19	50	1-4-6-8	0					
20	50	4-5-7-9	0					
21	75	5-4-4-6	0	40			-40	
22	75	5-5-8-9	0					
23	100	8-19-17-13	0	45	Sand and gravel, round, slightly moist.		-45	
24	50	6-13-20-32	0					
25	100	18-24-15-13	0					
26	50	4-9-10-12	0	50	Tan silty sand and gravel, poorly sorted, slightly moist, upper contact sharp.		-50	
27	100	3-5-7-8	0		Tan fine sand, well sorted, slightly moist, upper contact missing.			
28	100	7-10-10-11	0	55	Alluvium/ Colluvium Tan silty sand and shale fragments, slightly moist, poorly sorted, little rounding, upper contact sharp.		-55	
29	100	4-8-10-11	0					
30	50	10-11-8-12	0					
31	75	5-4-3-5	0	60			-60	
32	90	0-0-13-15	0					
33	50	5-9-9-11	0	65			-65	
34	75	7-9-13-15	0		Tan silty sand and rounded gravel, slightly moist to 67 then clayey sand and gravel.			
35	75	6-12-16-50/3	0	70	Bedrock Dark gray weathered shale.		-70	

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(800)763-2326BORING/WELL #: MW-3AR  
PROJECT #: 211347



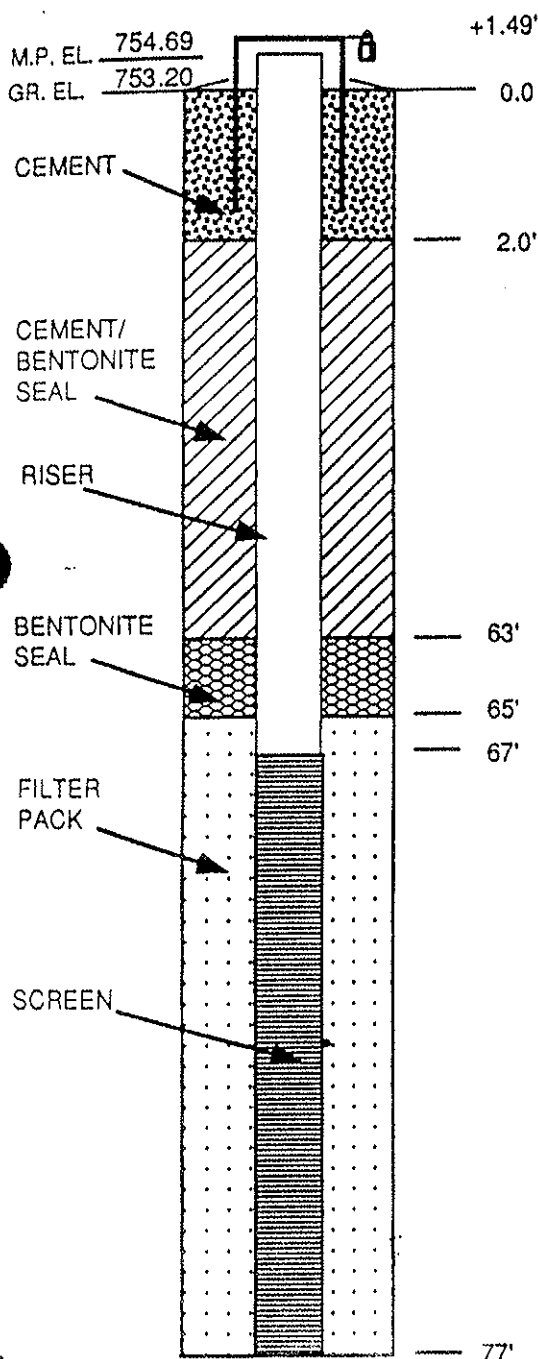
# MONITORING WELL COMPLETION LOG WELL NO. MW-4



**Dunn Corporation**  
12 Metro Park Road  
Albany, NY 12205  
(518) 458-1313

Project Newell Specialty Chemicals  
Client MIC  
Location Newell, West Virginia  
Project No. 03020-02470  
Date Drilled 5/14/92  
Date Developed 5/16/92

## WELL CONSTRUCTION DETAIL



NOT TO SCALE

## INSPECTION NOTES

Inspector Mark A. Williams  
Drilling Contractor Pennsylvania Drilling Company, Inc.  
Type of Well Environmental Monitoring Well  
Static Water Level 71.99' Date 5/16/92  
Measuring Point (M.P.) Top of PVC  
Total Depth of Well 77'

Drilling Method  
Type Hollow Stem Auger Diameter 4 1/4" I.D.  
Casing Steel

Sampling Method  
Type Split Spoon Diameter 2"  
Weight 140# Fall 30"  
Interval 0.0 to 20.0' (Standard), 20.0 to 30.0' (Continuous), and 30.0' - 77.0' (Standard)

Riser Pipe Left in Place  
Material Sch 40 PVC Diameter 2"  
Length 68.49' Joint Type Flush Threaded

Screen  
Material Sch 40 PVC Diameter 2"  
Slot Size 0.010 Inch Length 10'  
Stratigraphic Unit Screened Sand

Filter Pack  
Sand X Gravel        Natural         
Grade 430  
Amount 4 1/4 Bags Interval 65' - 77'

Seal(s)  
Type Cement Interval 0 - 2'  
Type Cement/Bentonite Interval 2' - 63'  
Type Bentonite Interval 63' - 65'

Locking Casing ☒ Yes ☐ No

Notes:

# MONITORING WELL COMPLETION LOG

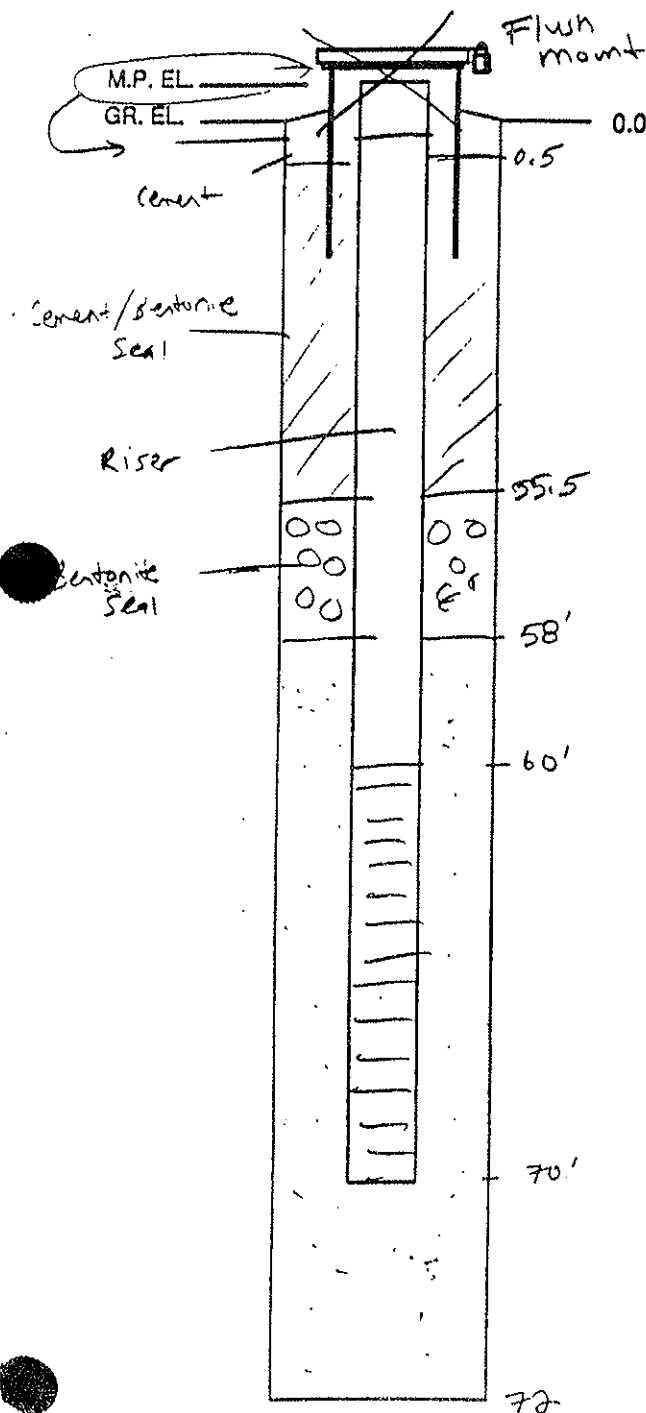
WELL NO. MW-5



**Dunn Corporation**  
12 Metro Park Road  
Albany, NY 12205  
(518) 458-1313

Project Newell Specialty Chemicals  
Client MIC  
Location Newell, West Virginia  
Project No. 03020-02470  
Date Drilled 6/22/92  
Date Developed \_\_\_\_\_

## WELL CONSTRUCTION DETAIL



NOT TO SCALE

## INSPECTION NOTES

Inspector Helen Mongillo  
Drilling Contractor Pennsylvania Drilling Company  
Type of Well Environmental Monitoring Well  
Static Water Level \_\_\_\_\_ Date \_\_\_\_\_  
Measuring Point (M.P.) Top of PVC  
Total Depth of Well 70'  
Total Depth of Boring 72'  
Drilling Method  
Type Hollow Stem Auger Diameter 4 1/4" ID  
Casing Steel  
Sampling Method  
Type Split Spoon Diameter 2" O.D.  
Weight 140 # Fall 30"  
Interval Standard 5' Intervals 45-57' and 65'-72'  
Riser Pipe Left in Place  
Material Sch. 40 PVC Diameter 2" I.D.  
Length 60' Joint Type Flush Threaded  
Screen  
Material Sch. 40 PVC Diameter 2" I.D.  
Slot Size 0.010 in Length 10'  
Stratigraphic Unit Screened Silt/sand/gravel  
Filter Pack  
Sand X Gravel \_\_\_\_\_ Natural \_\_\_\_\_  
Grade 1020 (Morle Grade 0 Equivalent)  
Amount \_\_\_\_\_ Interval 58' - 72'  
Seal(s)  
Type Cement Interval 0 - 0.5'  
Type Cement/Bentonite Interval 0.5' - 55.5'  
Type Bentonite Interval 55.5' - 58'

Locking Casing ☒ Yes ☐ No

Notes:

# Civil & Environmental Consultants, Inc.

PROJECT ID: NEWCHEM

BORING/WELL #: MW-6D

PROJECT #: 211347

PAGE 1 of 2

DATE STARTED: 1/21/03 COMPLETED: 1/22/03

DRILLING CO: TERRA TESTING

DRILLER: E. WITKOWSKI CEC REP: R. MCHALE

DRILLING METHOD: HSA

BOREHOLE DIA: 8 1/4"

CORE SIZE: NA

BACKFILL: NA

AIR MONITORING INST: PID/ FID

CASING ELEVATION:

GROUND ELEVATION:

KEY #: 2043

WELL INSTALLED: YES ☐ NO ☐

WELL HEAD STICKUP (ft): ABOVE ☐ BELOW ☐

OUTER CASING: NA

DEVELOPMENT METHOD: BAIL / PUMP

RESULTS: CLEAR

YIELD: > 1 GPM

SURFACE PROTECTION: PROTECTIVE STEEL / CONCRETE TO 30"

WATER LEVELS (ft TOC or BGS)

OPEN BORE HOLE @ COMPLETION: 57'

OPEN BORE @ 54' HRS: 24

WELL @ COMPLETION: 54

WELL ON 2/3/03 :

WASTE HANDING (CUTTING, DRILLING FLUIDS, DEVELOPMENT WATER):

Cuttings and development/ purge water drummed onsite pending analysis.

COMMENTS/PROBLEMS:

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
				0	Ground Surface			
1	75	14-7-4-3	0		FILL Slag to 0.5', followed by topsoil to 1.5.			
2	50	2-3-3-2	0		ALLUVIUM			
3	40	2-2-2-2	0		Orange/ brown silty sand, sand medium to coarse, subround to round, slightly moist.			
4	40	3-3-3-3	0					
5	50	2-2-2-2	0					
6	35	2-3-2-2	0					
7	25	1-2-1-1	0		Medium brown, well sorted, medium sand lense, upper contact diffuse, slightly moist.			
8	75	1-2-1-3	0					
9	75	2-2-2-2	0					
10	20	2-2-3-6	0					
11	75	3-8-7-6	0		Medium brown, sand and gravel.			
12	75	4-4-5-8	0		Medium brown, well sorted, medium sand lense, upper contact missing, slightly moist. Trace gravel from 28 to 39.			
13	90	4-4-5-5	0					
14	90	2-2-3-5	0					
15	75	1-2-5-6	0					

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BORING/WELL#: MW-6D  
PROJECT #: 211347

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
16	75	5-5-4-5	0		Medium brown, well sorted, medium sand lense, upper contact missing, slightly moist. Trace gravel from 28 to 39.			
17	75	1-2-4-6	0					
18	75	4-4-6-8	0	35			-35	
19	75	4-4-6-8	0					
20	50	5-17 -15-29	0					
21	50	15-21 -13-12	0	40	Medium brown sand and gravel, slightly moist, upper contact diffuse. Trace silt from 42 to 48.		-40	
22	75	20-25 -32-41	1246/ 8.7					
23	50	8-18 -25-18	1.3	45			-45	
24	50	12-18 -12-7	0					
25	60	3-4-7-7	7.90	50	Colluvium/ Alluvium Medium brown silty sand and gravel, poorly sorted, some angular some rounded gravel, slightly moist to moist plus at 50.8'. Upper contact gradational. Wet at 53.5'.		-50	
26	40	8-5-7-5	60.8					
27	75	3-7-8-8-	0.2					
28	75	4-13 -21-8	0.2	55	Firm, brown sandy silt, moist.		-55	
29	50	12-18 -21-50/5	0.6		Residuum Very weathered orange/ tan sandstone.			
30	5	50/2	0	60			-60	

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BORING/WELL #: MW-6D  
PROJECT #: 211347



# Civil & Environmental Consultants, Inc.

PROJECT ID: NEWCHEM

BORING/WELL #: MW-7

PROJECT #: 211347

PAGE 1 of 2

DATE STARTED: 5/12/03 COMPLETED: 5/13/03

DRILLING CO: TERRA TESTING

DRILLER: D. DODD

CEC REP: R. MCHALE

DRILLING METHOD: HSA

BOREHOLE DIA: 8 1/4"

CORE SIZE: NA

BACKFILL: NA

AIR MONITORING INST: PID/ FID

CASING ELEVATION: 751.98

GROUND ELEVATION: 752.36

KEY #: 2043

COMMENTS/PROBLEMS:

WELL INSTALLED: YES ☒ NO ☐

WELL HEAD STICKUP (ft): -0.38' ABOVE ☐ BELOW ☒

OUTER CASING: NA

DEVELOPMENT METHOD: BAIL/ PUMP

RESULTS: LT. BROWN

YIELD: < 1 GPM

SURFACE PROTECTION: BOLTED COVER

WATER LEVELS (ft TOC or BGS)

OPEN BORE HOLE @ COMPLETION: NA

OPEN BORE @ 44.7' HRS: 12

WELL @ COMPLETION: 44.64

WELL ON 5/13/03 :

WASTE HANDING (CUTTING, DRILLING FLUIDS, DEVELOPMENT WATER):

CUTTINGS AND DEVELOPMENT WATER DRUMMED ONSITE.

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
				0	Ground Surface FILL Slag and gravel to 1.3', then black/ gray stained medium sand, slight odor, moist to 3.5'.		752	
1	75	25-15-12-10	0				750	
2	75	11-21-22-13	0					
3	60	4-4-5-6	0	5	ALLUVIUM Medium brown, medium to coarse sand, trace rounded gravel, slightly moist, odor to 4.0'.		745	
4	50	4-3-3-4	0				740	
5	50	2-2-3-4	0				735	
6	50	4-3-2-3	0	10			730	
7	60	4-2-2-3	0					
8	50	3-2-1-2	0	15				
9	50	2-3-2-3	0					
10	50	3-3-3-2	0	20				
11	25	0-0-4-4	0					
12	75	3-3-4-3	0					
	75			25				

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BORING/WELL #: MW-7

PROJECT #: 211347

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
13	75	3-4-5-6	0		ALLUVIUM Medium brown, medium to coarse sand, trace rounded gravel, slightly moist, odor to 4.0'.			
14	75	3-2-3-5	11.2		Black stained fine sand, moist to wet at 28', petroleum odor from 26.5' and sheen on soil from 30', upper contact diffuse.		725	
15	75	0-0-3-3	68.1					
16	100	2-3-3-4	112	30			720	
17	100	4-3-3-4	153					
18	75	4-2-3-8	274	35				
19	50	8-8-7-6	20.7		Tan sandy silt with some angular gravel, poorly sorted, moist plus, upper contact sharp, slight odor.		715	
20	25	0-0-6-5	29.5		Unimodal tan fine sand, moist, no odor, upper contact sharp.			
21	75	0-3-5-7	29.9	40			710	
22	25	9-8-7-15	14.1					
23	25	8-8-18-26	0	45	Medium brown, medium to coarse sand with trace rounded gravel, well sorted, slightly moist, upper contact gradational.			
24	100	4-23-23-28	0		ALLUVIUM/ COLLUVIUM Red brown medium to fine sand with some angular gravel, wet, no odor, upper contact sharp.		705	
25	50	0-32-50/2	0	50	BEDROCK Very weathered sandstone, slightly moist. "Bottom of boring."			



**Civil & Environmental Consultants, Inc.**

PROJECT ID: NEWCHEM

BORING/WELL #: MW-8

PROJECT #: 211347

PAGE 1 of 2

DATE STARTED: 5/13/03	COMPLETED: 5/14/03	WELL INSTALLED:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
DRILLING CO: TERRA TESTING		WELL HEAD STICKUP (ft): 1.68	ABOVE <input checked="" type="checkbox"/> BELOW <input type="checkbox"/>
DRILLER: D. DODD	CEC REP: R. MCHALE	OUTER CASING: NA	
DRILLING METHOD: HSA		DEVELOPMENT METHOD: BAIL/ PUMP	
BOREHOLE DIA: 8 1/4"		RESULTS: CLEAR	
CORE SIZE: NA		YIELD: < 1 GPM	
BACKFILL: NA		SURFACE PROTECTION: LOCKING STICKUP COVER	
AIR MONITORING INST: PID/ FID		WATER LEVELS (ft TOC or BGS)	
CASING ELEVATION: 752.42		OPEN BORE HOLE @ COMPLETION: NA	
GROUND ELEVATION: 750.74		OPEN BORE @ NM	HRS: NA
KEY #: 2043		WELL @ COMPLETION: 41.45	
COMMENTS/PROBLEMS:		WELL ON 5/16/03	:
		WASTE HANDING (CUTTING, DRILLING FLUIDS, DEVELOPMENT WATER):	
		CUTTINGS AND DEVELOPMENT WATER DRUMMED ONSITE.	

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
				0	Ground Surface		752	
1	75	2-3-5-2	0		TOPSOIL			
2	75	3-3-2-3	0		ALLUVIUM		750	
3	75	2-2-2-2	0		Medium brown, medium to coarse sand, trace rounded gravel, slightly moist, no odor.			
4	75	2-1-1-2	0				745	
5	50	2-3-2-2	0					
6	50	2-2-2-2	0				740	
7	50	1-1-2-2	0					
8	50	2-2-3-3	0				735	
9	50	1-2-1-2	0					
10	50	1-2-1-2	0				730	
11	50	1-1-3-3	0					
12	50	2-2-2-2	0					
	50			25				

Pittsburgh, PA  
(800)365-2324

Cincinnati, OH  
(800)759-5614

Indianapolis, IN  
(877)746-0749

Columbus, OH  
(888)598-6808

Nashville, TN  
(800)763-2326

Export, PA  
(724)327-5200

BORING/WELL#: MW-8  
PROJECT #: 211347

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOW COUNTS RQD	ORGANIC VAPOR READING PPM	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
13	50	2-2-2-2	0		ALLUVIUM Medium brown, medium to coarse sand, trace rounded gravel, slightly moist, no odor.			
14	50	1-3-5-7	0		Medium brown sand and gravel, moist, upper contact diffuse.		725	
15	25	0-0-3-4	0					
16	50	3-3-3-4	0	30	Medium brown medium to coarse sand with trace rounded gravel, wet at 32', upper contact diffuse.		720	
17	75	1-1-1-2	0					
18	100	2-2-3-3	0	35				
19	100	1-4-5-3	0				715	
20	100	3-3-4-4	0					
21	100	3-4-5-9	0	40				
22	25	5-6-6-6	0		Gray to medium brown sand and gravel, wet, no odor, upper contact sharp.		710	
23	100	6-12-21-32	0	45				
24	100	28-28-32-26	0				705	
25	75	6-21-50/3	0		Orange silty sand, trace mica, firm, slightly moist, upper contact sharp.			
					BEDROCK Very weathered orange/ gray claystone, slightly moist. Bottom of boring.			
				50				

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(800)763-2326Export, PA  
(724)327-5200BORING/WELL #: MW-8  
PROJECT #: 211347



MPI

Well A-1

# AUGUST ENVIRONMENTAL DRILLING LOG

Project Hanson Aggregate Property Owner Mountaineer Park  
 Location Newell, WV WV Reg. No. WV00212-01-02  
 Boring Number MW-1 Total Depth 70' bgs Diameter 2-inch  
 Casing Elev. 748.88' Water Level: Initial \_\_\_\_\_ Static N/A  
 Screen Dia. 2-inch Length 10' Slot Size 0.02  
 Casing Dia. 2-inch Length 62' Type PVC  
 Drilling Method 4.25" I.D. H.S.A. Sample Method Continuous Split Spoons  
 Completion Details Slit-up Steel Protective Cover  
 Driller Bellaco Drilling, Inc Log By MGL Date 04/02/02



Depth (feet)	Sample No.	Well Const.	OVM (ppm)	Blow Count	Recovery (feet)	Lithology	Notes
0	1		60	2-8-23-38	1.5	Overlying Grass and sod followed by Dark Brown SAND w/	Steel Protective Cover Mounted in Concrete Pad
1	2		60	13-18-15-16	1.0	little silt trace rock fragments (moist)	
2	3		40	5-6-5-6	1.0	Dark brown SAND with trace gravel	
3	4		20	5-5-5-6	0.5		
4	5		0	4-4-5-5	1.0		
5	6		20	3-5-7-9	1.0		
6	7		140	4-3-5-7	1.0	Dark brown SAND with trace gravel (possible stained layers)	
7	8		100	7-5-6-5	1.0		
8	9		140	4-6-7-8	1.0		
9	10		60	5-7-12-19	1.0		
10	11		120	5-6-7-6	1.0	Coal layer from 20 - 21'	
11	12		NR	No Recovery	0.0		
12	13		180	3-4-4-5	1.0		
13	14		240	1-2-4-7	1.0		
14	15		120	5-6-7-10	1.0	Brown SAND coarse (moist - damp)	
15	16		120	6-7-9-9	1.0		
16	17		200	4-6-8-11	1.5		
17	18		100	5-7-6-12	1.5		
18	19		120	7-9-10-8	1.5		
19	20		160	1-4-7-7	1.5	Brown SAND coarse (moist - damp) with banded stain layers	
20	21		240	4-6-8-9	1.0	Brown SAND (medium - coarse)	
21	22		80	1-8-25-44	1.0		
22	23		260	5-15-25-33	0.5		
23	24		140	2-23-22-24	0.5		
24	25		240	5-20-28-15	2.0	Light Brown SAND (coarse) some gravel (moist - damp)	
25	26		160	3-7-12-12	2.0		
26	27		200	12-23-25-27	1.5	Brown SAND and sandstone rock fragments	
27	28		200	13-14-18-19	1.0	Highly weathered sandstone shale fragments	
28	29		140	9-19-26-38	1.0		
29	30		180	18-24-28-24	1.0		
30	31		220	8-22-30-28	1.0		
31	32		200	9-27-34-39	1.5		
32	33		20	18-29-56-42	1.0	Alternating bands of Clay and Silt	
33	34		40	5-19-24-26	1.0	Sandstone rock fragments	
34	35		NR	10-19-22-26	0.5		
35	36		NR	9-21-21-50/2	0.5	Sandstone	

Initial Water Level - \_\_\_\_ Feet bgs

Static Water Level - Feet TOC



Silty Sand



Risor




Bentonite Seal/Grout




Screen

MP2

Well C-2

				Project Name:		Boring/	
						Well ID: MW-2	
<b>Civil &amp; Environmental Consultants, Inc.</b> Pittsburgh Cincinnati Columbus Nashville 1-800-365-2324						Project No: 991172.254	
						Page 1 of 1	
Date Started: 12/22/99 Completed: 12/22/99				Well Installed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Drilling Company: BELASCO DRILLING CO.				Well Head Stickup: ft. <input type="checkbox"/> Above <input type="checkbox"/> Below			
Driller: AL DUDLY				Outer Casing:			
CEC Representative LARRY DRANE				Development Method:			
Drilling Method: HAS				Results:			
Bore Hole:		Core Size:		Yield:			
Backfill:				Surface Protection:			
Air Monitoring Instrument:				Water Levels:			
Casing Elevation:				TOC = Top of Inner Casing GS = Ground Surface		Open Bore Hole @ Completion:	
Ground Elevation:						Open Bore Hole @ Hrs:	
Key#:						Well @ Completion: 66.4	
						Well on / / :	
Comments/Problems:				Waste Handling (Cuttings, Drilling Fluids, Development Water):			

Sample No. Core Run	Run/Recovery Recovery	Blows Counts RQD	Organic Vapor Reading (ppm)	Depth (feet)	MATERIAL DESCRIPTION AND COMMENTS	Graphic Log	Elevation (feet, msl)	WELL DIAGRAM
0.0-		3-6		1	0.0-0.6: brown SANDY-SILT			
2.0	1.1	8-11		2				
2.0-		12-7		3	0.6-7.2: Brown coarse SAND and GRAVEL, moist			
4.0	0.6	9-11		4				
4.0-		1-8		5				
6.0	0.5	8-6		6				
6.0-		1-2		7	7.2-41.0: Med. To coarse SAND, trace to some			
8.0	0.5	4-6		8	coal frags., trace gravel.			
8.0-		0-3		9				
10.0	0.4	3-3		10				
				11				
				12				
				13				
				14				
				15				
15.0-		1-5		16				
17.0	0.7	7-5		17				
				18				
				19				
				20				

Contact Types:	Abrupt	Gradational	Boring/Well ID: MW-2
	Irregular or Angular	Estimated	Project No: 991172.254

MP2

Civil &amp; Environmental Consultants, Inc.

Boring/Well ID: MW-2

Project No: 991172.254

Page 2 of 3

Sample No. Core Run	Run/Recovery Recovery	Blows Counts RQD	Organic Vapor Reading (ppm)	Depth (feet)	MATERIAL DESCRIPTION AND COMMENTS	Graphic Log	Elevation (feet, msl)	WELL DIAGRAM
20.0- 22.0	1.0	1-4 6-16		25				
25.0- 27.0	0.9	3-6 9-9						
30.0- 32.0	1.6	1-5 9-8						
35.0- 37.0	1.7	11-11 8-9		35	41.0-44.0: SAND and GRAVEL, some boulders, dry.			
40.0- 42.0	1.8	8-15 35-50/5						
45.0- 47.0	1.8	5-11 18-23						
50.0- 50.8	2.0	8-12 12-14		50	50.0-65.0: Brown, green, red colluvium- SHALE and SILTSTONE fragments 51.5: silty sand wet zone			
55.0- 57.0	2.0	5-12 18-14						
60.0- 62.0	2.0	4-13 10-20						
65.0- 67.0	2.0	8-11 22-22		60	65.0-67.0: SILT, some sand and rock fragments moist to wet			

Notes:

2" PVC SCH TO RISER


HOLE PLUG  
CAVE-IN

Boring/Well ID: MW-2

Project No: 991172.254

Boring/Well ID: MW-2
Project No: 991172.254





MP6

				Project Name:		Boring/ Well ID: MW-1	
<b>Civil &amp; Environmental Consultants, Inc.</b> Pittsburgh Cincinnati Columbus Nashville 1-800-365-2324						Project No: 991172.254	
						Page 1 of 1	
Date Started: 12/20/99 Completed: 12/21/99				Well Installed: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
Drilling Company: BELASCO DRILLING CO.				Well Head Stickup: ft. <input type="checkbox"/> Above <input type="checkbox"/> Below			
Driller: AL DUDLY				Outer Casing:			
CEC Representative LARRY DRANE				Development Method:			
Drilling Method: HAS				Results:			
Bore Hole:		Core Size:		Yield:			
Backfill:				Surface Protection:			
Air Monitoring Instrument:				Water Levels:			
Casing Elevation:				TOC = Top of Inner Casing GS = Ground Surface		Open Bore Hole @ Completion:	
Ground Elevation:						Open Bore Hole @ Hrs:	
Key#:						Well @ Completion: 83.1	
						Well on 12 / 22 / 99 : 83.02	
Comments/Problems:				Waste Handling (Cuttings, Drilling Fluids, Development Water):			

Sample No. Core Run	Run/Recovery Recovery	Blows Counts RQD	Organic Vapor Reading (ppm)	Depth (feet)	MATERIAL DESCRIPTION AND COMMENTS	Graphic Log	Elevation (feet, msl)	WELL DIAGRAM
0.0-		2-7		1	0.0-0.6: Dk. Brown, fine to med grain SAND, trace cs. sand and Silt.			2" PVC SCH 40 RISER
2.0	1.4	7-7		2				
2.0-		3-6		3				
4.0	0.8	5-5		4				
4.0-		2-4		5	0.6-1.9: Brown fine to v. fine SAND, some silt, trace cs. Sand.			
6.0	0.7	5-4		6				
6.0-		2-3		7				
8.0	0.7	3-2		8				
8.0-		2-2		9	1.9-11.5: Brown coarse SAND and GRAVEL, some fine to med. Sand, trace coal @ 6.5' some coal @ 8.0'			
10.0	0.4	2-3		10				
				11				
				12				
				13	11.5-14.0: same as above			
				14				
				15				
				16				
15.0-		1-3		17	14.0-20.0: same as above, dk. Brown to black			
17.0	0.2	3-4		18				
				19				
				20				

Contact Types:	Abrupt 	Gradational 	Estimated 
	Irregular or Angular 		

Boring/Well ID: MW-1	Project No: 991172.254
----------------------	------------------------

Civil & Environmental Consultants, Inc.					Boring/Well ID: MW-1 Project No: 991172.254		Page <u>2</u> of <u>3</u>	
Sample No. Core Run	Run/Recovery Recovery	Blows Counts RQD	Organic Vapor Reading (ppm)	Depth (feet)	MATERIAL DESCRIPTION AND COMMENTS	Graphic Log	Elevation (feet, msl)	WELL DIAGRAM
20.0- 22.0	0.7	3-5 7-5		25	20.0-30.6: Brown course SAND, some med. Sand w/ coal fragments.			
25.0- 27.0	1.0	2-3 5-5		30	30.5-31.5: Brown course to med. SAND and BOULDERS (LS, SS)			
30.0- 32.0	0.9	4-21 28-13						
				35	31.5-38.0: Brown course to med. SAND			
35.0- 37.0	1.6	7-10 12-14						
				40				
40.0- 41.1	0.8	21 50/6						
				45	38.0-53.0: Brown course to med. SAND and GRAVEL some boulders.			
45.0- 47.0	1.1	12-22 32-49						
				50				
50.0- 50.8	0.5	25 50/3						
				55	53.0-58.0: Brown med. SAND, trace gravel			
55.0- 57.0	1.1	0-4 8-8						
				60	58.0-60.7: Brown med. To course SAND and GRAVEL			
60.0- 62.0	2.0	13-13 8-15						
					60.7-71.6: Brown SILTY-SAND and med SAND interbeds, moist			
65.0- 67.0		4-5 20-50						

2" PVC  
SCH 40  
RISER

60.2  
62

HOLEPLUG  
SAND  
PACK

Notes:

Boring/Well ID: MW-1  
Project No: 991172.254

				67					
70.0-72.0	2.0	3-10 13-25		70	71.6-74.0: Brown-Gray colluvium- course SAND and angular rock fragments, silty moist to wet.				
75.0-77.0	2.0	1-9 17-22		75	74.0-81.0: interbedded layers of SANDY SILT and course SAND and GRAVEL, moist to wet.				
80.0-82.0	1.1	0-4 7-7		80	81.0-86.0: Gray-brown med. to course SAND, trace gravel and silt, wet				
85.0-87.0		5-28 43-35		85	86.0-87.0: weathered SANDSTONE, med grained, saturated				

Boring/Well ID: MW-1

Project No: 991172.254

MP7

Well A-2

AUGUST ENVIRONMENTAL  
DRILLING LOG

Project Hanson Aggregates Property Owner Mountaineer Park  
 Location Newell, WV WV Reg. No. WV00212-02-02  
 Boring Number MW-2 Total Depth 90' bgs Diameter 2-inch  
 Casing Elev. 746.18' Water Level: Initial Static N/A  
 Screen Dia. 2-inch Length 15' Slot Size 0.02  
 Casing Dia. 2-inch Length 77' Type PVC  
 Drilling Method 4.25" I.D. H.S.A. Sample Method Continuous Split Spoons  
 Completion Details Stick-up Steel Protective Cover  
 Driller Bellasco Drilling, Inc Log By MGL Date 04/03/02



Depth (feet)	Sample No.	Well Const.	OVM (ppm)	Blow Count	Recovery (feet)	Lithology	Notes
0							Steel Protective Cover Mounted in Concrete Pad
1							
2							
3							
4							
5	1			NST		Overlying grass and sod material	
6	2		60.0	5-9-8-9	1	Brown SAND with trace coal fragments	
7	3		0.0	2-4-2-3	1		
8	4		0.0	3-7-7-8	1		
9	5		0.0	1-3-4-6	1		
10	6		80.0	3-5-8-14	1		
11	7		140.0	5-9-10-9	1		
12	8		180.0	2-5-5-8	1		
13	9		120.0	4-5-5-4	1		
14	10		80.0	3-3-3-2	1		
15	11		240.0	1-3-2-5	1		
16	12		200.0	3-3-5-3	1		
17	13		100.0	5-5-5-3	1		
18	14		NR	2-4-5-9	0		
19	15		120.0	4-3-5-7	1		
20	16		140.0	3-7-8-12	1		
21	17		160.0	2-6-6-7	1		
22	18		180.0	3-6-6-7	1		
23	19		NRT	25-50/4	0.5	Large GRAVEL	
24	20		NRT	36-50/2	0.5		
25	21		160.0	17-39-26-21	1		
26	22		NRT	12-50/3	0		
27	23		140.0	21-43-49-50/2	1	SAND (coarse) and Gravel fragments	
28	24		120.0	15-25-22-50/1	1		
29	25		120.0	8-18-24-15	1		
30	26		180.0	12-31-31-24	1	Alternating beds of SAND and gravel	
31	27		200.0	10-22-22-24	1		
32	28		160	18-38-28-24	0.5		
33	29		260	5-20-24-28	0.5		
34	30		140.0	0-20-34-39	1		
35	31		300.0	8-22-30-28	1	Alternating beds of SAND and Sandy shale fragments	
36	32		180.0	9-27-34-39	1		
37	33		160.0	18-29-56-42	1		
38	34		240.0	5-19-24-26	1		
39	35		240.0	10-19-22-26	1		
40	36		140.0	9-21-21-23	2		
41	37		140.0	5-18-28-26	1	SILT with some shale fragments	
42	38			8-18-17-24	1.5	SAND (m-c)	Ground Water
43	39			2-8-12-19	1.5		
44	40			2-10-19-26	2	SAND (fine) trace gravel	
45	41			18-17-19-24	1.5		
46	42			21-33-29-42	1	Weathered gray SANDSTONE	
47	43		NR	NR	NR		Augered into sandstone TD = 90' bgs
48	44			38-50/4	0.5		
49	45			35-50/5	0.5	Competent Sandstone	

Initial Water Level - Feet bgs



Silty Sand



Riser

Static Water Level - Feet TOC



Bentonite Seal/Grout



Screen



MP8

Well C-3



# Civil & Environmental Consultants, Inc.

Cincinnati, OH

Pittsburgh, PA

(513) 488-0218 • (800) 750-5614

(412) 921-3402 • (800) 365-2324

PROJECT ID: \_\_\_\_\_

BORING/WELL #: MW-3

IRON CITY SAND AND

PROJECT #: 991172.258

GRAVEL

PAGE 1 OF

DATE STARTED: 12/27/99

COMPLETED: 12/28/99

WELL INSTALLED:

☒ YES ☐ NO

DRILLING COMPANY: BELASCO DRILLING

WELL HEAD STICKUP:

FT. ☒ ABOVE ☐ BELOW

DRILLER: AL

OUTER CASING: NA

CEC REPRESENTATIVE: MARK ORZECZOWSKI

DEVELOPMENT METHOD:

DRILLING METHOD: 4 1/4" ID HSA

RESULTS:

BORE HOLE Ø: 8"

CORE SIZE: NA

YIELD:

BACKFILL: WELL

SURFACE PROTECTION: STEEL PIPE COVER

AIR MONITORING INSTRUMENT: PID

WATER LEVELS:

CASING ELEVATION:

TOC=TOP OF  
INNER CASING

OPEN BORE HOLE • COMPLETION:

GROUND ELEVATION

OPEN BORE HOLE Ø: \_\_\_\_\_ HRS:

KEY #: 2043

GS=GROUND  
SURFACE

WELL • COMPLETION:

COMMENTS/PROBLEMS:

WELL ON / / :

WASTE HANDLING (CUTTINGS, DRILLING FLUIDS,  
DEVELOPMENT WATER):

TO GROUND SURFACE

## MATERIAL DESCRIPTION AND COMMENTS

GRAPHIC LOG

ELEVATION  
(FEET, MSL)

WELL DIAGRAM

SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOWS COUNTS RQD	ORGANIC VAPOR READING (PPM)	DEPTH (FEET)
S-1	1.5	3 8 14 30	0	
S-2	1.3	5 16 15 16	0	
S-3	1.0	3 6 7 7	0	5
S-4	0.6	5 10 11 5	-	
S-5	1.2	3 3 2 3	0	10
S-6	1.0	1 3 4 6	0	15
				20

BROWN SAND (F-M), TRACE GRAVEL AND  
SILT, MOIST

BROWN SAND AND GRAVEL, MOIST

BENTONITE  
GROUTSCH. 40  
PVC

(TRACE COAL FRAGMENTS AT 20 FEET)

CONTACT TYPES: ABRUPT

IRREGULAR OR ANGULAR

GRADATIONAL ---  
ESTIMATED .....

BORING/WELL #: MW-3

PROJECT #: 991172

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SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOWS COUNTS ROD	ORGANIC VAPOR READING (PPM)	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
S-7	1.0	2445	0		SAA			
S-8	0.8	311312	0	26				
S-9	1.5	3577	0	30				
S-10	1.5	48710	0	35	BROWN SAND (M.), MAIST			
S-11	1.5	4983	0	40			39.5	BENTONITE
S-12	1.8	61186	0	45			42.0	
S-13	1.5	281315	0	50	BROWN SILTY SAND AND GRAVEL, MOIST		45.0	SILICA SAND
S-14	1.5	1611315	0	55	(MOIST + BEGINNING AT 55 FEET)			#16 SLOT SCH. 40 PVC
				60				

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MP8

0-3

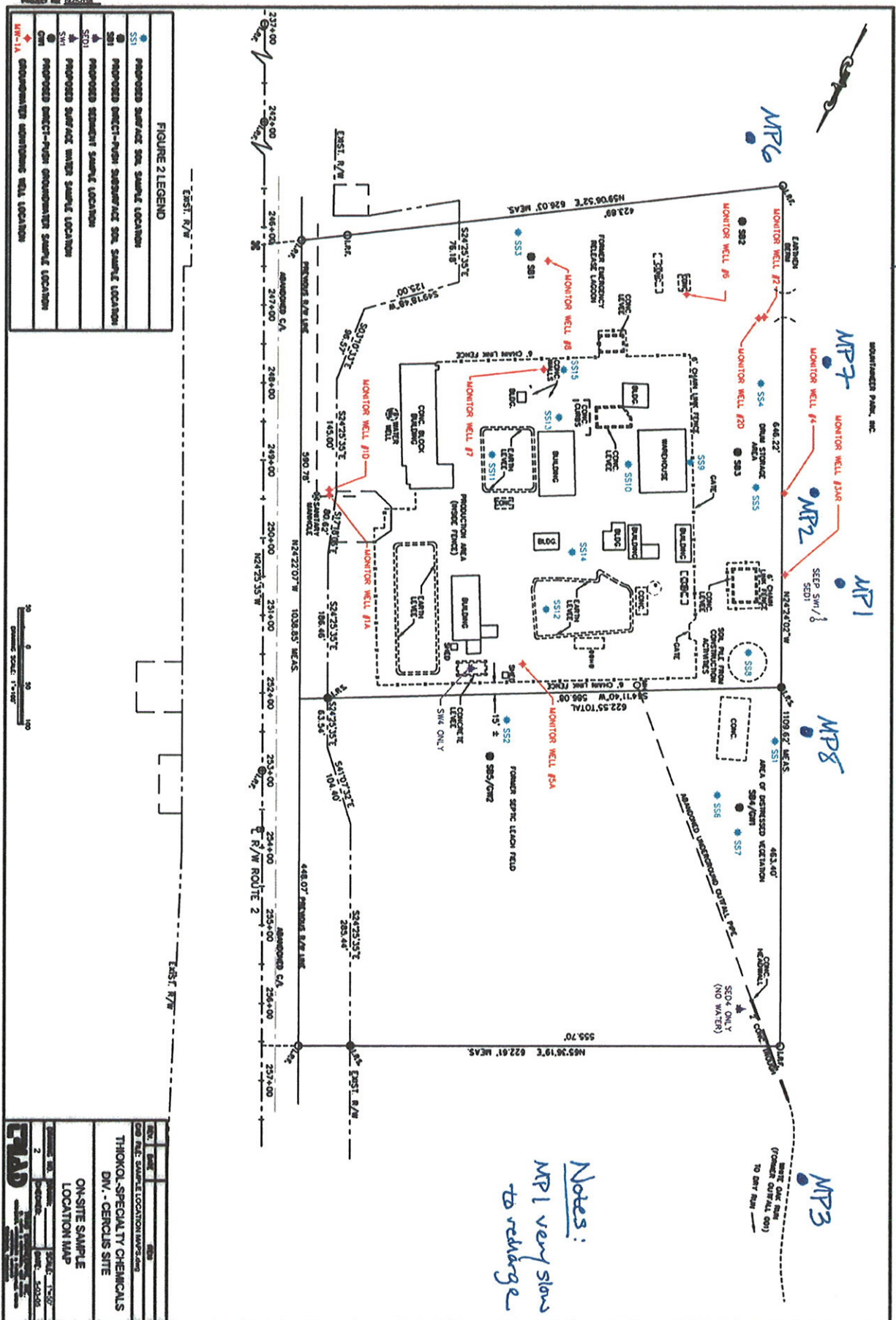
SAMPLE NO. CORE RUN	RUN/RECOVERY % RECOVERY	BLOWS COUNTS RQD	ORGANIC VAPOR READING (PPM)	DEPTH (FEET)	MATERIAL DESCRIPTION AND COMMENTS	GRAPHIC LOG	ELEVATION (FEET, MSL)	WELL DIAGRAM
5-15	1.5	8 12 35 33	0		SAA			
5-16	0.5	20 50/2	0	65	BROWN WEATHERED SANDSTONE TD = 65.7'		65.0	
				70				
				75				
				80				
				85				
				90				
				95				
				100				

NOTES:

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• MP5  
↑ Quarry

• MP4  
↑ Quarry






## **APPENDIX 3**


### **SAMPLE WELL LOGS**

# AQUEOUS - GROUNDWATER



	<b>SAMPLE LOG SHEET</b>	
	Deltech	
SAMPLE IDENTIFICATION:	MW-mPI	
DATE:	11/30/09	TIME: 1625
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	<del>40-ml VOA vial</del>
Sample Preservation	HNO3	<del>HCL and Ice</del>
SAMPLE DESCRIPTION:	field filtered unplugged lock	
FIELD MEASUREMENTS:		
	LATITUDE	LONGITUDE
SAMPLE LOCATION:	40° 34' 27.86" N 80° 39' 3.44" W	
DEPTH TO BOTTOM	72.42'	
DEPTH TO WATER	71.73'	
PURGE VOLUME	0.69' x .163 x 3 = .34 gallons	
	low flow pump	
SAMPLER INITIALS:	[Signature]	




# AQUEOUS - GROUNDWATER

	SAMPLE LOG SHEET	
	Deltech	
SAMPLE IDENTIFICATION:	MW - MP2	
DATE:	11/30/09	TIME: 1530
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	40-ml VOA vial
Sample Preservation	HNO3	<del>HCL and Ice</del>
SAMPLE DESCRIPTION:	field filtered replaced lock	
FIELD MEASUREMENTS:		
	LATITUDE	LONGITUDE
SAMPLE LOCATION:	40° 34' 26.30" N 80° 39' 2.21" W	
DEPTH TO BOTTOM	80'	
DEPTH TO WATER	65.58'	
PURGE VOLUME	14.42' x .163 x 3 = 70.5 gallons low flow pump	
SAMPLER INITIALS:	JAS	

# AQUEOUS - GROUNDWATER



	SAMPLE LOG SHEET	
	Deltech	
SAMPLE IDENTIFICATION:	MW - MP3	
DATE:	11/30/09	TIME: 1135
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	<del>40-ml VOA vial</del>
Sample Preservation	HNO3	<del>HCL</del> and Ice
SAMPLE DESCRIPTION:	field filtered Sandy water - under tree w/ pink flag	
FIELD MEASUREMENTS:	- slow to recharge - replaced lock	
SAMPLE LOCATION:	LATITUDE	LONGITUDE
	40° 34' 35" N    80° 39' 8.58" W	
DEPTH TO BOTTOM	16.61'	
DEPTH TO WATER	10.23'	
PURGE VOLUME	6.38 X .163 X 3 = 3.12	
SAMPLER INITIALS:	(purged dry; hand bailed) 	

# AQUEOUS - GROUNDWATER


	SAMPLE LOG SHEET	
	Deltech	
SAMPLE IDENTIFICATION:	MW-MP4	
DATE:	11/30/09	TIME: 1114
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	40-ml <del>VOA</del> vial
Sample Preservation	HNO3	<del>HCL</del> and Ice
SAMPLE DESCRIPTION:	slightly turbid, no odor, quick leachage	
FIELD MEASUREMENTS:	replaced lock; field filtered	
SAMPLE LOCATION:	LATITUDE	LONGITUDE
	40° 34' 20.33" N 80° 39' 30.77 W	
DEPTH TO BOTTOM	15.96'	
DEPTH TO WATER	8.15'	
PURGE VOLUME	7.81 x .123 x 3 = 3.82 gallons hand bailed	
SAMPLER INITIALS:	[Signature]	




# AQUEOUS - GROUNDWATER

	<b>SAMPLE LOG SHEET</b>	
	Deltech	
SAMPLE IDENTIFICATION:	MW-MP5	
DATE:	11/30/09	TIME: 1042
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	40-ml VOA vial
Sample Preservation	HNO3	<del>HCL and Ice</del>
SAMPLE DESCRIPTION:	north west of gas well south of large pond Sandy water ; Slow recharge	
FIELD MEASUREMENTS:	- field filtered	
SAMPLE LOCATION:	LATITUDE	LONGITUDE
	40°34'7.59"N 80°38'59.12"W	
DEPTH TO BOTTOM	15.26'	
DEPTH TO WATER	12.5'	
PURGE VOLUME	2.76' x .163 x 3 = 1.35 gallons - hand bailed ; replaced lock	
SAMPLER INITIALS:		

# AQUEOUS - GROUNDWATER


	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW-MPL6	
<b>DATE:</b>	11/30/09	<b>TIME:</b> 1430
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	VOCs
<b>Number of Containers:</b>	1	2
<b>Type of Containers:</b>	1L Plastic	40-ml VOA vial
<b>Sample Preservation</b>	HNO3	HCL and Ice
<b>SAMPLE DESCRIPTION:</b>	@ end of path (labeled MP-7 on top)	
<b>FIELD MEASUREMENTS:</b>	very sandy field filtered unplaced rock	
<b>SAMPLE LOCATION:</b>	<div style="display: flex; justify-content: space-between;"> <span><b>LATITUDE</b></span> <span><b>LONGITUDE</b></span> </div> <div style="display: flex; justify-content: space-between;"> <span>40° 34' 23.38" N</span> <span>80° 38' 59.08" W</span> </div>	
<b>DEPTH TO BOTTOM</b>	87'	
<b>DEPTH TO WATER</b>	82.61'	
<b>PURGE VOLUME</b>	4.39' x .163 x 3 = 2.13 gallons hand bailed 1.5 gallons dry	
<b>SAMPLER INITIALS:</b>	LMW	

# AQUEOUS - GROUNDWATER


	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW - MP7	
<b>DATE:</b>	11/30/09	<b>TIME:</b> 1500
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	VOCs
<b>Number of Containers:</b>	1	2
<b>Type of Containers:</b>	1L Plastic	40-ml VOA vial
<b>Sample Preservation</b>	HNO3	HCL and Ice
<b>SAMPLE DESCRIPTION:</b>	field filtered replaced lock	
<b>FIELD MEASUREMENTS:</b>	* ms/msd	
<b>SAMPLE LOCATION:</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>
	40°34'24.74" N 80°39'1.31" N	
<b>DEPTH TO BOTTOM</b>	90	
<b>DEPTH TO WATER</b>	78.15	
<b>PURGE VOLUME</b>	11.85 x .163 x 3 = 5.79 gallons - low flow pump	
<b>SAMPLER INITIALS:</b>	JAS	




# AQUEOUS - GROUNDWATER

	<b>SAMPLE LOG SHEET</b>	
	Deltech	
SAMPLE IDENTIFICATION:	MW - MP70 FD	
DATE:	11/30/09	TIME: 1305
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	VOCs
Number of Containers:	1	2
Type of Containers:	1L Plastic	40-ml VOA vial
Sample Preservation	HNO3	HCL and Ice
SAMPLE DESCRIPTION:	Field Duplicate of MW-MP7	
FIELD MEASUREMENTS:		
SAMPLE LOCATION:	LATITUDE	LONGITUDE
DEPTH TO BOTTOM		
DEPTH TO WATER		
PURGE VOLUME		
SAMPLER INITIALS:	JAS	

# AQUEOUS - GROUNDWATER


	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW - mp8	
<b>DATE:</b>	11/30/09	<b>TIME:</b> 1615
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	<del>VOCs</del>
<b>Number of Containers:</b>	1	<del>2</del>
<b>Type of Containers:</b>	1L Plastic	40-ml VOA vial
<b>Sample Preservation</b>	HNO3	<del>HCL and Ice</del>
<b>SAMPLE DESCRIPTION:</b>	field filtered replaced lock	
<b>FIELD MEASUREMENTS:</b>		
	LATITUDE	LONGITUDE
<b>SAMPLE LOCATION:</b>	40° 34' 29.81" N 80° 39' 3.96" W	
<b>DEPTH TO BOTTOM</b>	165.7'	
<b>DEPTH TO WATER</b>	59.12'	
<b>PURGE VOLUME</b>	6.58' x 163 x 3 = 3.22 gallons	
	low flow upump	
<b>SAMPLER INITIALS:</b>	LH	

# AQUEOUS - GROUNDWATER


	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW - 1A	
<b>DATE:</b>	12/1/09	<b>TIME:</b> 823
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	VOCs
<b>Number of Containers:</b>	1	2
<b>Type of Containers:</b>	1L Plastic	40-ml VOA vial
<b>Sample Preservation</b>	HNO3	HCL and Ice
<b>SAMPLE DESCRIPTION:</b>	field filtered	
<b>FIELD MEASUREMENTS:</b>		
<b>SAMPLE LOCATION:</b>	LATITUDE	LONGITUDE
	40° 34' 29.02" N 80° 38' 54.85" W	
<b>DEPTH TO BOTTOM</b>	30'	
<b>DEPTH TO WATER</b>	28.92	
<b>PURGE VOLUME</b>	1.08' x .163 x 3 = 0.53 gallons hand bailed	
<b>SAMPLER INITIALS:</b>	CJP	





# AQUEOUS - GROUNDWATER

	SAMPLE LOG SHEET	
	Deltech	
SAMPLE IDENTIFICATION:	MW-1D	
DATE:	12/1/09	TIME: 840
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	VOCs
Number of Containers:	1	2
Type of Containers:	1L Plastic	40-ml VOA vial
Sample Preservation	HNO3	HCL and Ice
SAMPLE DESCRIPTION:	field filtered	
FIELD MEASUREMENTS:		
	LATITUDE	LONGITUDE
SAMPLE LOCATION:	next to MW-1A	
DEPTH TO BOTTOM	52.4'	
DEPTH TO WATER	44.73'	
PURGE VOLUME	7.67' x .163 x 3 = 3.75 gallons hand bailed	
SAMPLER INITIALS:	JAS	

# AQUEOUS - GROUNDWATER


	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW - 2	
<b>DATE:</b>	12/1/09	<b>TIME:</b> 1110
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	VOCs
<b>Number of Containers:</b>	1	2
<b>Type of Containers:</b>	1L Plastic	40-ml VOA vial
<b>Sample Preservation</b>	HNO3	HCL and Ice
<b>SAMPLE DESCRIPTION:</b>	- field filtered sandy w/ silver specs cut lock off	
<b>FIELD MEASUREMENTS:</b>		
	<b>LATITUDE</b>	<b>LONGITUDE</b>
<b>SAMPLE LOCATION:</b>	40°34'24.95"N 80°38'59.65"W	
<b>DEPTH TO BOTTOM</b>	80'	
<b>DEPTH TO WATER</b>	76.15'	
<b>PURGE VOLUME</b>	3.85' x .163 x 3 = 1.9 gallons low flow pumps	
<b>SAMPLER INITIALS:</b>	GJP	

# AQUEOUS - GROUNDWATER


	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW-2D	
<b>DATE:</b>	12/1/09	<b>TIME:</b> 1020
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	VOCs
<b>Number of Containers:</b>	1	2
<b>Type of Containers:</b>	1L Plastic	40-ml VOA vial
<b>Sample Preservation</b>	HNO3	HCL and Ice
<b>SAMPLE DESCRIPTION:</b>	field filtered - riptied tubing to cap - tubing shorter than well	
<b>FIELD MEASUREMENTS:</b>	<del>NA</del>	
<b>SAMPLE LOCATION:</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>
	next to mw-2	
<b>DEPTH TO BOTTOM</b>	92'	
<b>DEPTH TO WATER</b>	81.2'	
<b>PURGE VOLUME</b>	10.8' x .163 x 3 = 5.3 gallons low flow pump	
<b>SAMPLER INITIALS:</b>		




# AQUEOUS - GROUNDWATER

	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW - 3AR	
<b>DATE:</b>	12/1/09	<b>TIME:</b> 1200
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	<del>VOCs</del>
<b>Number of Containers:</b>	1	<del>2</del>
<b>Type of Containers:</b>	1L Plastic	<del>40-ml VOA vial</del>
<b>Sample Preservation</b>	HNO3	<del>HCL and Ice</del>
<b>SAMPLE DESCRIPTION:</b>	field filtered cut of lock	
<b>FIELD MEASUREMENTS:</b>		
	LATITUDE	LONGITUDE
<b>SAMPLE LOCATION:</b>	40° 34' 27.53" N 80° 39' 2.05" W	
<b>DEPTH TO BOTTOM</b>	70'	
<b>DEPTH TO WATER</b>	66'	
<b>PURGE VOLUME</b>	4' x .163 x 3 = 1.96 gallons low flow pump	
<b>SAMPLER INITIALS:</b>	GJP	

# AQUEOUS - GROUNDWATER


	SAMPLE LOG SHEET	
	Deltech	
SAMPLE IDENTIFICATION:	MW - 4	
DATE:	12/1/09	TIME: 1135
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	<del>40-ml VOA vial</del>
Sample Preservation	HNO3	<del>HCL and Ice</del>
SAMPLE DESCRIPTION:	field filtered	
FIELD MEASUREMENTS:		
SAMPLE LOCATION:	LATITUDE	LONGITUDE
	40° 34' 26.98" N 80° 39' 1.63" W	
DEPTH TO BOTTOM	77'	
DEPTH TO WATER	69.88'	
PURGE VOLUME	7.12' x .163 x 3 = 3.48	
	low flow pump	
SAMPLER INITIALS:	JAS	

# AQUEOUS - GROUNDWATER


	SAMPLE LOG SHEET	
	Deltech	
SAMPLE IDENTIFICATION:	MW - 5A	
DATE:	12/1/09	TIME: 1240
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	<del>40-ml VOA vial</del>
Sample Preservation	HNO3	<del>HCL and Ice</del>
SAMPLE DESCRIPTION:	field filtered flush-mount well	
FIELD MEASUREMENTS:		
	LATITUDE	LONGITUDE
SAMPLE LOCATION:	40°34'30.02"N 80°38'58.82"W	
DEPTH TO BOTTOM	70'	
DEPTH TO WATER	55.28'	
PURGE VOLUME	14.72' x .163 x 3 = 7.26 gallons	
	low flow pump	
SAMPLER INITIALS:	GJP	




# AQUEOUS - GROUNDWATER

	<b>SAMPLE LOG SHEET</b>	
	Deltech	
<b>SAMPLE IDENTIFICATION:</b>	MW - 61D	
<b>DATE:</b>	12/1/09	<b>TIME:</b> NA
<b>SAMPLE MEDIA:</b>	Aqueous	<b>TYPE:</b> GRAB
<b>ANALYSIS REQUESTED:</b>	Dissolved Metals	VOCs
<b>Number of Containers:</b>	1	2
<b>Type of Containers:</b>	1L Plastic	40-ml VOA vial
<b>Sample Preservation</b>	HNO3	HCL and Ice
<b>SAMPLE DESCRIPTION:</b>	NA - Not Sampled	
<b>FIELD MEASUREMENTS:</b>		
<b>SAMPLE LOCATION:</b>	LATITUDE	LONGITUDE
	40° 34' 24.96" N 80° 38' 58.72" W	
<b>DEPTH TO BOTTOM</b>	56	
<b>DEPTH TO WATER</b>	Hit Bottom @ 52.7 - Dry	
<b>PURGE VOLUME</b>		
<b>SAMPLER INITIALS:</b>		

# AQUEOUS - GROUNDWATER

	<b>SAMPLE LOG SHEET</b>	
	Deltech	
SAMPLE IDENTIFICATION:	MW - 7	
DATE:	12/1/09	TIME: 1310
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	VOCs
Number of Containers:	1	2
Type of Containers:	1L Plastic	40-ml VOA vial
Sample Preservation	HNO3	HCL and Ice
SAMPLE DESCRIPTION:	field filtered flush mount well	
FIELD MEASUREMENTS:		
SAMPLE LOCATION:	LATITUDE	LONGITUDE
	40° 34' 26.45" N    80° 38' 57.61" W	
DEPTH TO BOTTOM	50'	
DEPTH TO WATER	46.1'	
PURGE VOLUME	3.9' x .163 x 3 = 1.91 gallons low flow pump	
SAMPLER INITIALS:	JAS	

# AQUEOUS - GROUNDWATER

	SAMPLE LOG SHEET	
	Deltech	
SAMPLE IDENTIFICATION:	MW-8	
DATE:	12/1/09	TIME: 925
SAMPLE MEDIA:	Aqueous	TYPE: GRAB
ANALYSIS REQUESTED:	Dissolved Metals	<del>VOCs</del>
Number of Containers:	1	<del>2</del>
Type of Containers:	1L Plastic	<del>40-ml VOA vial</del>
Sample Preservation	HNO3	<del>HCL and Ice</del>
SAMPLE DESCRIPTION:	field filtered out of lock	
FIELD MEASUREMENTS:	orange participate @ first then purged clear!	
SAMPLE LOCATION:	LATITUDE	LONGITUDE
	40° 34' 25.29" N 80° 38' 56.63" W	
DEPTH TO BOTTOM	50'	
DEPTH TO WATER	42.33'	
PURGE VOLUME	7.67' x .163 x 3 = 3.75 gallons hand bailed	
SAMPLER INITIALS:	JAS	





## **APPENDIX 4**

### **DATA VALIDATION REPORT**

## **DATA VALIDATION REPORT**

**Deltech Custom Facility  
New Cumberland, Hancock County, West Virginia**

Prepared for:

**Mr. Dennis Cooper  
Deltech Resins Company  
7743 Ohio River Blvd.  
New Cumberland, West Virginia 26047**

Prepared By:

**TRIAD ENGINEERING, INC.  
219 Hartman Run Road  
Morgantown, West Virginia 26505  
(304) 296-2562**

January 2010

## TABLE OF CONTENTS

<b>1.0 INTRODUCTION .....</b>	<b>1</b>
<b>2.0 VOLATILE ORGANIC COMPOUNDS .....</b>	<b>2</b>
2.1 Overview.....	2
2.2 Summary .....	2
2.3 Major Problems.....	3
2.4 Minor Problems .....	3
<b>3.0 DISSOLVED METALS .....</b>	<b>3</b>
3.1 Overview.....	3
3.2 Summary .....	3
3.3 Major Problems.....	3
3.4 Minor Problems .....	3
3.4.1 Sampling Precision .....	3
3.4.2 Method Blank.....	4
<b>4.0 CONCLUSION.....</b>	<b>4</b>

### ATTACHMENTS:

Attachment A.	Chain-of-Custody Record
Attachment B.	Result and QC Tables
Attachment C.	Glossary of Data Qualifiers
Attachment D.	Laboratory Case Narratives

## 1.0 INTRODUCTION

This quality assurance (QA) review is based upon a thorough examination of the laboratory analytical data generated from the analysis of environmental samples collected by TRIAD ENGINEERING, INC. at Deltech Custom Facility (the Site). According to the Quality Assurance Program Plan (QAPP) 100 percent of the analytical data generated during site assessment activities is required to be validated.

The samples were submitted to West Virginia Department of Environmental Protection (WVDEP) certified laboratory TestAmerica Laboratories, Inc. (TestAmerica) located in Pittsburgh, Pennsylvania under a chain-of-custody on December 2, 2009. The laboratory delivery groups (LDG), a unique identification assigned by the laboratory to the chain-of-custody received is TestAmerica Project Number C9L02577. A copy of the chain-of-custody is presented in **Attachment A, Chain of Custody Record**.

TRIAD has performed this data validation review in accordance with the *National Functional Guidelines for Organic Data Review* (USEPA, February 1994), *National Functional Guidelines for Inorganic Data Review* (USEPA, February 1994), and the *Guidance on Environmental Data Verification and Data Validation* (USEPA, November 2002).

The data validation consisted of an analyte and sample specific examination to determine the analytical quality of a specific data set as compared to the applicable analytical procedures and methods. The laboratory analytical data provided were examined to determine the usability of the analytical results and compliance relative to the method requirements specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3<sup>d</sup> Edition* (SW-846) and the data quality objectives (DQO's) provided by the laboratory.

This critical QA review identifies data quality issues for specific samples and specific evaluation criteria. Data not qualified in this report should be considered valid based on the quality control (QC) criteria that have been reviewed. Thorough QA reviews of laboratory-generated data routinely identify various problems associated with analytical measurements; however, data problems are not always indicative of data rejection, or failure to meet the objectives of data quality.

This report is organized by individual analytical procedures. A brief overview of each analytical procedure is provided, followed by a summary, along with a discussion of the significance of any major or minor problems with the respective procedure.

The validated analytical data for each sample is provided in **Attachment B, Result and QC Tables**, of this *Data Validation Report*. Qualifier codes have been placed next to results to enable the data user to quickly assess the qualitative and/or quantitative reliability of any result. A glossary of data qualifier codes is provided in **Attachment C, Glossary of Data Qualifiers**.

## **2.0 VOLATILE ORGANIC COMPOUNDS**

### **2.1 Overview**

Eleven volatile organic compound (VOC) samples were collected for validation by TRIAD from the Deltech Site. The laboratory performed the VOC analysis by USEPA SW-846 8260B methodology.

### **2.2 Summary**

Based upon the data provided to the data reviewer, the samples were successfully analyzed for all target compounds. Unless noted otherwise below, the sample analyses and instruments' calibrations, sensitivities and performances were according to the referenced methodologies and the data quality objectives as outlined in SW846 8260B. The laboratory case narratives are presented in

## **Attachment D, *Laboratory Case Narratives*.**

### **2.3 Major Problems**

None.

### **2.4 Minor Problems**

None.

## **3.0 DISSOLVED METALS**

### **3.1 Overview**

Twenty samples analyzed for dissolved metals (aluminum, arsenic, iron, manganese, lead, thallium, and vanadium) were collected for validation by TRIAD from the Deltech Site. The laboratory performed the metals analysis by USEPA SW-846 6010B.

### **3.2 Summary**

The samples were successfully analyzed for all target compounds. Unless noted otherwise below, the sample analyses and instruments' calibrations, sensitivities and performances were according to the referenced methodologies. The laboratory case narratives are presented in **Attachment D, *Laboratory Case Narratives*.**

### **3.3 Major Problems**

None.

### **3.4 Minor Problems**

#### **3.4.1 Sampling Precision**

A field duplicate was collected for sample MW-MP7 that was identified on the COC as MW-MP70 FD. The sampling precision was greater than the RPD acceptance limit of 40% for thallium.



Due to the poor field duplicate precision, the data reviewer has qualified thallium as estimated “J” for all samples. A summary of the field duplicates associated with this site are summarized in **Attachment B, Result and QC Tables, Table 1. Field Duplicate Summary.**

#### **3.4.2 Method Blank**

Thallium and vanadium were detected in the method blank. Therefore, thallium and vanadium are qualified as biased high “H” if detected in the associated samples due to suspected laboratory contamination.

## **4.0 CONCLUSION**

Data representing 100 % of data generated within the scope of the project were examined relative to the method requirements specified in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3<sup>rd</sup> Edition* (SW-846) and the data quality objectives (DQO's) provided by the laboratory.

Based upon the thorough data review, the analytical data associated with the Site were determined to meet the data quality objectives of the project. Therefore, data collected during the field sampling activities can be used to characterize the Site as well as to prepare a residual human health and ecological risk assessment for the Site. The data can also be compared, as appropriate, to state and/or federal environmental regulatory benchmarks, standards, and criteria.

## **Attachment A. Chain-of-Custody Record**

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt \_\_\_\_\_

Drinking Water? Yes ☐ No ☒

## Chain of Custody Custody Record

TAL-4124 (1007)

Client	Triad Engineering Inc.	Project Manager	Julie Szymanek	Date	12-2-09	Chain of Custody Number	137443
Address	219 Hartman Run Rd.	Telephone Number (Area Code/Fax Number)	(304) 296-2562 / 296-8739	Lab Number		Page	1 of 2
City	Morgantown	State	WV	Zip Code	26508		
Project Name and Location (State)	Deltech New Cumberland, WV						
Contract/Purchase Order/Quote No.	84562 / 1427174						

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
			Air	Soil	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc	NaOH		
mw - mps	11/30/09	1042	X					X					Appendix IX	* all field filtered
mw - mp4		1114	X					X						
mw - mp3		1135	X					X						
mw - mpc6		1430	X					X						
mw - mp7 ms		1500	X					X						
mw - mp7 msd		1500	X					X						
mw - mp7		1500	X					X						
mw - mp70 FD		1505	X					X						
mw - mp2		1530	X					X						
mw - mpe1		1625	X					X						
mw - mpe8		1615	X					X						

Possible Hazard Identification		Sample Disposal		Disposal By Lab		Archive For		(A fee may be assessed if samples are retained longer than 1 month)	
<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Return to Client	<input type="checkbox"/> Months	<input type="checkbox"/> Months	<input type="checkbox"/> Months	<input type="checkbox"/> Months
Turn Around Time Required:		14 Days		21 Days		Other			
1. Relinquished By		Julie Szymanek		Date		12/2/09		Time	
2. Relinquished By				Date				Time	
3. Relinquished By				Date				Time	
Comments		Level IV Data Validation							

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

# Chain of Custody Record

TAL-4124 (1007)

# TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

Temperature on Receipt \_\_\_\_\_

Drinking Water? Yes ☐ No ☒

Client		Project Manager		Date		Chain of Custody Number	
Address		ISzymanek@triadeng.com		Lab Number		137444	
City		State		Zip Code		Page 2 of 2	
Project Name and Location (State)		Site Contact		Lab Contact		Analysis (Attach list if more space is needed)	
Contract/Purchase Order/Quote No.		Carrier/Waybill Number		Containers & Preservatives		Special Instructions/Conditions of Receipt	

Sample I.D. No. and Description (Containers for each sample may be combined on one line)	Date	Time	Matrix					Containers & Preservatives					Analysis (Attach list if more space is needed)
			Air	Asbestos	Soil	Soil	Unpres.	H2SO4	HNO3	HCl	NaOH	ZnAc	
MW-1A	12/1/09	823	X						X	X			Diss. Metals VOCs TLC
MW-1D		840	X						X	X			
MW-8		925	X						X	X			
MW-6D (DRX)													
MW-2		1110	X						X	X			
MW-2D		1020	X						X	X			
MW-4A		1135	X						X	X			
MW-3AR		1200	X						X	X			
MW-5A		1240	X						X	X			
MW-7		110	X						X	X			
Trip Blank			X										

Possible Hazard Identification		Sample Disposal		QC Requirements (Specify)	
<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison B	<input type="checkbox"/> Unknown	<input checked="" type="checkbox"/> Disposal By Lab
Turn Around Time Required		Archive For		(A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> 24 Hours	<input type="checkbox"/> 48 Hours	<input checked="" type="checkbox"/> 7 Days	<input type="checkbox"/> 14 Days	<input type="checkbox"/> 21 Days	<input type="checkbox"/> Other
1. Relinquished By		Date		Time	
Julie Szymanek		12/2/09		1245	
2. Relinquished By		Date		Time	
3. Relinquished By		Date		Time	
		12-2-09		1245	
Comments					

DISTRIBUTION: WHITE - Returned to Client with Report; CANARY - Stays with the Sample; PINK - Field Copy

## **Attachment B. Result and QC Tables**

Triad Engineering, Inc.

Client Sample ID: MW-MP6

GC/MS Volatiles

Lot-Sample #....: C9L020577-004	Work Order #....: LQD4X1AA	Matrix.....: WATER
Date Sampled....: 11/30/09	Date Received...: 12/02/09	MS Run #.....: 9343174
Prep Date.....: 12/09/09	Analysis Date...: 12/09/09	
Prep Batch #....: 9343273	Analysis Time...: 17:54	
Dilution Factor: 1	Initial Wgt/Vol: 5 mL	Final Wgt/Vol...: 5 mL
Analyst ID.....: 034635	Instrument ID...: HP6	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
Benzene	ND	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
<b>Carbon disulfide</b>	<b>0.41 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.21</b>
Carbon tetrachloride	ND	1.0	ug/L	0.14
Chlorobenzene	ND	1.0	ug/L	0.14
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro- 2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
1,2-Dichloroethane	ND	1.0	ug/L	0.21
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

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Triad Engineering, Inc.

Client Sample ID: MW-MP6

GC/MS Volatiles

Lot-Sample #....: C9L020577-004 Work Order #....: LQD4X1AA Matrix.....: WATER

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	0.39 J	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	35	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41
SURROGATE	PERCENT		RECOVERY	
	RECOVERY		LIMITS	
Toluene-d8	109		(71 - 118)	
1,2-Dichloroethane-d4	89		(64 - 135)	
4-Bromofluorobenzene	103		(70 - 118)	
Dibromofluoromethane	105		(70 - 128)	

NOTE(S):

J Estimated result. Result is less than RL.



Triad Engineering, Inc.

MW-MP6

GC/MS Volatiles

Lot-Sample #: C9L020577-004

Work Order #: LQD4X1AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
Pentachloroethane	76-01-7	ND	M	ug/L

**NOTE(S) :**

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-MP7

GC/MS Volatiles

Lot-Sample #....: C9L020577-005	Work Order #....: LQD461A1	Matrix.....: WATER
Date Sampled....: 11/30/09	Date Received...: 12/02/09	MS Run #.....: 9343174
Prep Date.....: 12/09/09	Analysis Date...: 12/09/09	
Prep Batch #....: 9343273	Analysis Time...: 10:06	
Dilution Factor: 1	Initial Wgt/Vol: 5 mL	Final Wgt/Vol...: 5 mL
Analyst ID.....: 034635	Instrument ID...: HP6	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
Benzene	ND	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
Carbon disulfide	ND	1.0	ug/L	0.21
Carbon tetrachloride	ND	1.0	ug/L	0.14
Chlorobenzene	0.94 J	1.0	ug/L	0.14
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro-propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro-2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
1,2-Dichloroethane	2.4	1.0	ug/L	0.21
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

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Triad Engineering, Inc.

Client Sample ID: MW-MP7

GC/MS Volatiles

Lot-Sample #....: C9L020577-005 Work Order #....: LQD461A1 Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	0.62 J	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	106	(71 - 118)
1,2-Dichloroethane-d4	88	(64 - 135)
4-Bromofluorobenzene	100	(70 - 118)
Dibromofluoromethane	102	(70 - 128)

NOTE(S) :

J Estimated result. Result is less than RL.

Triad Engineering, Inc.

MW-MP7

GC/MS Volatiles

Lot-Sample #: C9L020577-005

Work Order #: LQD461A1

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S) :

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-MP70 FD

GC/MS Volatiles

Lot-Sample #....: C9L020577-006	Work Order #....: LQD5D1AJ	Matrix.....: WATER
Date Sampled....: 11/30/09	Date Received...: 12/02/09	MS Run #.....: 9343174
Prep Date.....: 12/09/09	Analysis Date...: 12/09/09	
Prep Batch #....: 9343273	Analysis Time...: 10:31	
Dilution Factor: 1	Initial Wgt/Vol: 5 mL	Final Wgt/Vol...: 5 mL
Analyst ID.....: 034635	Instrument ID...: HP6	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
Benzene	ND	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
Carbon disulfide	ND	1.0	ug/L	0.21
Carbon tetrachloride	ND	1.0	ug/L	0.14
<b>Chlorobenzene</b>	<b>0.99 J</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.14</b>
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro- 2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
<b>1,2-Dichloroethane</b>	<b>2.6</b>	<b>1.0</b>	<b>ug/L</b>	<b>0.21</b>
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

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Triad Engineering, Inc.

Client Sample ID: MW-MP70 FD

GC/MS Volatiles

Lot-Sample #...: C9L020577-006 Work Order #...: LQD5D1AJ Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	0.69 J	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Toluene-d8	104	(71 - 118)
1,2-Dichloroethane-d4	87	(64 - 135)
4-Bromofluorobenzene	99	(70 - 118)
Dibromofluoromethane	103	(70 - 128)

**NOTE (S) :**

J Estimated result. Result is less than RL.



Triad Engineering, Inc.

MW-MP70 PD

GC/MS Volatiles

Lot-Sample #: C9L020577-006

Work Order #: LQD5D1AJ

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S) :

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-1A

GC/MS Volatiles

Lot-Sample #....: C9L020577-010	Work Order #....: LQD511AA	Matrix.....: WATER
Date Sampled....: 12/01/09	Date Received...: 12/02/09	MS Run #.....: 9343174
Prep Date.....: 12/09/09	Analysis Date...: 12/09/09	
Prep Batch #....: 9343273	Analysis Time...: 18:18	
Dilution Factor: 1	Initial Wgt/Vol: 5 mL	Final Wgt/Vol...: 5 mL
Analyst ID.....: 034635	Instrument ID...: HP6	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
Benzene	ND	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
Carbon disulfide	ND	1.0	ug/L	0.21
Carbon tetrachloride	ND	1.0	ug/L	0.14
Chlorobenzene	ND	1.0	ug/L	0.14
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	0.48 J	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro-propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro-2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
1,2-Dichloroethane	ND	1.0	ug/L	0.21
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

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Triad Engineering, Inc.

Client Sample ID: MW-1A

GC/MS Volatiles

Lot-Sample #...: C9L020577-010 Work Order #...: LQD511AA Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	ND	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Toluene-d8	106	(71 - 118)		
1,2-Dichloroethane-d4	88	(64 - 135)		
4-Bromofluorobenzene	100	(70 - 118)		
Dibromofluoromethane	103	(70 - 128)		

NOTE(S):

J Estimated result. Result is less than RL.

Triad Engineering, Inc.

MW-1A

GC/MS Volatiles

Lot-Sample #: C9L020577-010

Work Order #: LQD511AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-1D

GC/MS Volatiles

Lot-Sample #...: C9L020577-011	Work Order #...: LQD551AA	Matrix.....: WATER
Date Sampled...: 12/01/09	Date Received...: 12/02/09	MS Run #.....: 9343174
Prep Date.....: 12/09/09	Analysis Date...: 12/09/09	
Prep Batch #...: 9343273	Analysis Time...: 18:42	
Dilution Factor: 1	Initial Wgt/Vol: 5 mL	Final Wgt/Vol...: 5 mL
Analyst ID.....: 034635	Instrument ID...: HP6	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
Benzene	ND	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
Carbon disulfide	ND	1.0	ug/L	0.21
Carbon tetrachloride	ND	1.0	ug/L	0.14
Chlorobenzene	ND	1.0	ug/L	0.14
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro- 2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
1,2-Dichloroethane	ND	1.0	ug/L	0.21
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

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Triad Engineering, Inc.

Client Sample ID: MW-1D

GC/MS Volatiles

Lot-Sample #....: C9L020577-011

Work Order #....: LQD551AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	ND	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Toluene-d8	101	(71 - 118)		
1,2-Dichloroethane-d4	92	(64 - 135)		
4-Bromofluorobenzene	99	(70 - 118)		
Dibromofluoromethane	108	(70 - 128)		

Triad Engineering, Inc.

MW-1D

GC/MS Volatiles

Lot-Sample #: C9L020577-011

Work Order #: LQD551AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S) :

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-2

GC/MS Volatiles

Lot-Sample #....: C9L020577-013  
Date Sampled....: 12/01/09  
Prep Date.....: 12/09/09  
Prep Batch #....: 9343273  
Dilution Factor: 1  
Analyst ID.....: 034635

Work Order #....: LQD6E1AA  
Date Received...: 12/02/09  
Analysis Date...: 12/09/09  
Analysis Time...: 19:06  
Initial Wgt/Vol: 5 mL  
Instrument ID...: HP6  
Method.....: SW846 8260B

Matrix.....: WATER  
MS Run #.....: 9343174

Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
<b>Acetone</b>	8.5	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
<b>Benzene</b>	0.57 J	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
<b>Carbon disulfide</b>	0.33 J	1.0	ug/L	0.21
Carbon tetrachloride	ND	1.0	ug/L	0.14
<b>Chlorobenzene</b>	6.5	1.0	ug/L	0.14
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro- 2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
<b>1,2-Dichloroethane</b>	0.42 J	1.0	ug/L	0.21
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

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Triad Engineering, Inc.

Client Sample ID: MW-2

GC/MS Volatiles

Lot-Sample #....: C9L020577-013

Work Order #....: LQD6E1AA

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	0.16 J	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	0.40 J	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Toluene-d8	105	(71 - 118)		
1,2-Dichloroethane-d4	90	(64 - 135)		
4-Bromofluorobenzene	100	(70 - 118)		
Dibromofluoromethane	103	(70 - 128)		

NOTE(S) :

J Estimated result. Result is less than RL.

Triad Engineering, Inc.

MW-2

GC/MS Volatiles

Lot-Sample #: C9L020577-013

Work Order #: LQD6E1AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-2D

GC/MS Volatiles

Lot-Sample #....: C9L020577-014  
Date Sampled....: 12/01/09  
Prep Date.....: 12/09/09  
Prep Batch #....: 9343273  
Dilution Factor: 1  
Analyst ID.....: 034635

Work Order #....: LQD6F1AA  
Date Received...: 12/02/09  
Analysis Date...: 12/09/09  
Analysis Time...: 19:30  
Initial Wgt/Vol: 5 mL  
Instrument ID...: HP6  
Method.....: SW846 8260B

Matrix.....: WATER  
MS Run #.....: 9343174

Final Wgt/Vol...: 5 mL

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
Benzene	0.27 J	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
Carbon disulfide	ND	1.0	ug/L	0.21
Carbon tetrachloride	ND	1.0	ug/L	0.14
Chlorobenzene	3.1	1.0	ug/L	0.14
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro- 2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
1,2-Dichloroethane	ND	1.0	ug/L	0.21
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

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Triad Engineering, Inc.

Client Sample ID: MW-2D

GC/MS Volatiles

Lot-Sample #....: C9L020577-014 Work Order #....: LQD6F1AA Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	3.6	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Toluene-d8	108	(71 - 118)		
1,2-Dichloroethane-d4	85	(64 - 135)		
4-Bromofluorobenzene	100	(70 - 118)		
Dibromofluoromethane	99	(70 - 128)		

NOTE(S) :

J Estimated result. Result is less than RL.

Triad Engineering, Inc.

MW-2D

GC/MS Volatiles

Lot-Sample #: C9L020577-014

Work Order #: LQD6F1AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S) :

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-7

GC/MS Volatiles

Lot-Sample #....: C9L020577-018      Work Order #....: LQD6N1AA      Matrix.....: WATER  
 Date Sampled....: 12/01/09      Date Received...: 12/02/09      MS Run #.....: 9344178  
 Prep Date.....: 12/10/09      Analysis Date...: 12/10/09  
 Prep Batch #....: 9344311      Analysis Time...: 10:01  
 Dilution Factor: 2.5      Initial Wgt/Vol: 5 mL      Final Wgt/Vol...: 5 mL  
 Analyst ID.....: 034635      Instrument ID...: HP6  
 Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
<b>Acetone</b>	<b>6.6 J</b>	<b>12</b>	<b>ug/L</b>	<b>6.2</b>
Acetonitrile	ND	50	ug/L	11
Acrolein	ND	50	ug/L	6.4
Acrylonitrile	ND	50	ug/L	7.7
Allyl chloride	ND	2.5	ug/L	0.72
<b>Benzene</b>	<b>3.2</b>	<b>2.5</b>	<b>ug/L</b>	<b>0.26</b>
Bromodichloromethane	ND	2.5	ug/L	0.32
Bromoform	ND	2.5	ug/L	0.48
Bromomethane	ND	2.5	ug/L	0.78
2-Butanone (MEK)	ND	12	ug/L	1.4
<b>Carbon disulfide</b>	<b>1.8 J</b>	<b>2.5</b>	<b>ug/L</b>	<b>0.53</b>
Carbon tetrachloride	ND	2.5	ug/L	0.34
<b>Chlorobenzene</b>	<b>45</b>	<b>2.5</b>	<b>ug/L</b>	<b>0.34</b>
Chloroethane	ND	2.5	ug/L	0.54
Chloroform	ND	2.5	ug/L	0.43
Chloromethane	ND	2.5	ug/L	0.71
Chloroprene	ND	2.5	ug/L	0.43
Dibromochloromethane	ND	2.5	ug/L	0.34
1,2-Dibromo-3-chloro- propane	ND	2.5	ug/L	0.35
1,2-Dibromoethane (EDB)	ND	2.5	ug/L	0.45
Dibromomethane	ND	2.5	ug/L	0.72
trans-1,4-Dichloro- 2-butene	ND	2.5	ug/L	0.76
Dichlorodifluoromethane	ND	2.5	ug/L	0.48
1,1-Dichloroethane	ND	2.5	ug/L	0.29
<b>1,2-Dichloroethane</b>	<b>0.99 J</b>	<b>2.5</b>	<b>ug/L</b>	<b>0.53</b>
1,1-Dichloroethene	ND	2.5	ug/L	0.74
trans-1,2-Dichloroethene	ND	2.5	ug/L	0.42
1,2-Dichloropropane	ND	2.5	ug/L	0.24
cis-1,3-Dichloropropene	ND	2.5	ug/L	0.47
trans-1,3-Dichloropropene	ND	2.5	ug/L	0.37
1,4-Dioxane	ND	500	ug/L	86
Ethylbenzene	ND	2.5	ug/L	0.57
Ethyl methacrylate	ND	2.5	ug/L	0.59
2-Hexanone	ND	12	ug/L	0.40
Iodomethane	ND	2.5	ug/L	0.52

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Triad Engineering, Inc.

Client Sample ID: MW-7

GC/MS Volatiles

Lot-Sample #...: C9L020577-018 Work Order #...: LQD6N1AA Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	100	ug/L	13
Methacrylonitrile	ND	2.5	ug/L	0.58
Methylene chloride	ND	2.5	ug/L	0.37
Methyl methacrylate	ND	2.5	ug/L	0.36
4-Methyl-2-pentanone (MIBK)	ND	12	ug/L	1.3
Propionitrile	ND	5.0	ug/L	1.1
Styrene	ND	2.5	ug/L	0.24
1,1,1,2-Tetrachloroethane	ND	2.5	ug/L	0.69
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	0.50
Tetrachloroethene	ND	2.5	ug/L	0.37
Toluene	ND	2.5	ug/L	0.38
1,1,1-Trichloroethane	ND	2.5	ug/L	0.72
1,1,2-Trichloroethane	ND	2.5	ug/L	0.50
Trichloroethene	ND	2.5	ug/L	0.36
Trichlorofluoromethane	ND	2.5	ug/L	0.50
1,2,3-Trichloropropane	ND	2.5	ug/L	0.59
Vinyl acetate	ND	2.5	ug/L	0.55
Vinyl chloride	ND	2.5	ug/L	0.57
o-Xylene	ND	2.5	ug/L	0.27
m-Xylene & p-Xylene	ND	5.0	ug/L	1.0
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Toluene-d8	104	(71 - 118)		
1,2-Dichloroethane-d4	88	(64 - 135)		
4-Bromofluorobenzene	103	(70 - 118)		
Dibromofluoromethane	103	(70 - 128)		

NOTE(S):

J Estimated result. Result is less than RL.

Triad Engineering, Inc.

MW-7

GC/MS Volatiles

Lot-Sample #: C9L020577-018

Work Order #: LQD6N1AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

<u>PARAMETER</u>	<u>CAS #</u>	<u>ESTIMATED RESULT</u>	<u>RETENTION TIME</u>	<u>UNITS</u>
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S) :

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #....: C9L020577-019	Work Order #....: LQD6P1AA	Matrix.....: WATER
Date Sampled....: 12/01/09	Date Received...: 12/02/09	MS Run #.....: 9343174
Prep Date.....: 12/09/09	Analysis Date...: 12/09/09	
Prep Batch #....: 9343273	Analysis Time...: 15:29	
Dilution Factor: 1	Initial Wgt/Vol: 5 mL	Final Wgt/Vol...: 5 mL
Analyst ID.....: 034635	Instrument ID...: HP6	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Acetone	ND	5.0	ug/L	2.5
Acetonitrile	ND	20	ug/L	4.5
Acrolein	ND	20	ug/L	2.6
Acrylonitrile	ND	20	ug/L	3.1
Allyl chloride	ND	1.0	ug/L	0.29
Benzene	ND	1.0	ug/L	0.11
Bromodichloromethane	ND	1.0	ug/L	0.13
Bromoform	ND	1.0	ug/L	0.19
Bromomethane	ND	1.0	ug/L	0.31
2-Butanone (MEK)	ND	5.0	ug/L	0.55
Carbon disulfide	ND	1.0	ug/L	0.21
Carbon tetrachloride	ND	1.0	ug/L	0.14
Chlorobenzene	ND	1.0	ug/L	0.14
Chloroethane	ND	1.0	ug/L	0.21
Chloroform	ND	1.0	ug/L	0.17
Chloromethane	ND	1.0	ug/L	0.28
Chloroprene	ND	1.0	ug/L	0.17
Dibromochloromethane	ND	1.0	ug/L	0.14
1,2-Dibromo-3-chloro- propane	ND	1.0	ug/L	0.14
1,2-Dibromoethane (EDB)	ND	1.0	ug/L	0.18
Dibromomethane	ND	1.0	ug/L	0.29
trans-1,4-Dichloro- 2-butene	ND	1.0	ug/L	0.30
Dichlorodifluoromethane	ND	1.0	ug/L	0.19
1,1-Dichloroethane	ND	1.0	ug/L	0.12
1,2-Dichloroethane	ND	1.0	ug/L	0.21
1,1-Dichloroethene	ND	1.0	ug/L	0.30
trans-1,2-Dichloroethene	ND	1.0	ug/L	0.17
1,2-Dichloropropane	ND	1.0	ug/L	0.095
cis-1,3-Dichloropropene	ND	1.0	ug/L	0.19
trans-1,3-Dichloropropene	ND	1.0	ug/L	0.15
1,4-Dioxane	ND	200	ug/L	34
Ethylbenzene	ND	1.0	ug/L	0.23
Ethyl methacrylate	ND	1.0	ug/L	0.23
2-Hexanone	ND	5.0	ug/L	0.16
Iodomethane	ND	1.0	ug/L	0.21

(Continued on next page)

Triad Engineering, Inc.

Client Sample ID: TRIP BLANK

GC/MS Volatiles

Lot-Sample #...: C9L020577-019 Work Order #...: LQD6P1AA Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
Isobutyl alcohol	ND	40	ug/L	5.1
Methacrylonitrile	ND	1.0	ug/L	0.23
Methylene chloride	ND	1.0	ug/L	0.15
Methyl methacrylate	ND	1.0	ug/L	0.14
4-Methyl-2-pentanone (MIBK)	ND	5.0	ug/L	0.53
Propionitrile	ND	2.0	ug/L	0.45
Styrene	ND	1.0	ug/L	0.097
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	0.28
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	0.20
Tetrachloroethene	ND	1.0	ug/L	0.15
Toluene	ND	1.0	ug/L	0.15
1,1,1-Trichloroethane	ND	1.0	ug/L	0.29
1,1,2-Trichloroethane	ND	1.0	ug/L	0.20
Trichloroethene	ND	1.0	ug/L	0.14
Trichlorofluoromethane	ND	1.0	ug/L	0.20
1,2,3-Trichloropropane	ND	1.0	ug/L	0.24
Vinyl acetate	ND	1.0	ug/L	0.22
Vinyl chloride	ND	1.0	ug/L	0.23
o-Xylene	ND	1.0	ug/L	0.11
m-Xylene & p-Xylene	ND	2.0	ug/L	0.41
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Toluene-d8	104	(71 - 118)		
1,2-Dichloroethane-d4	91	(64 - 135)		
4-Bromofluorobenzene	101	(70 - 118)		
Dibromofluoromethane	104	(70 - 128)		



Triad Engineering, Inc.

TRIP BLANK

GC/MS Volatiles

Lot-Sample #: C9L020577-019

Work Order #: LQD6P1AA

Matrix: WATER

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS

PARAMETER	CAS #	ESTIMATED RESULT	RETENTION TIME	UNITS
Pentachloroethane	76-01-7	ND	M	ug/L

NOTE(S):

M: Result was measured against nearest internal standard assuming a response factor of 1.

Triad Engineering, Inc.

Client Sample ID: MW-MP5

DISSOLVED Metals

Lot-Sample #....: C9L020577-001

Date Sampled....: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD301AA
		Dilution Factor: 1		Analysis Time...: 18:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	0.84 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD301AC
		Dilution Factor: 1		Analysis Time...: 18:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	ND	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD301AD
		Dilution Factor: 1		Analysis Time...: 18:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	1.8	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD301AE
		Dilution Factor: 1		Analysis Time...: 18:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.098 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD301AF
		Dilution Factor: 1		Analysis Time...: 18:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.15 B,J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD301AG
		Dilution Factor: 1		Analysis Time...: 18:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.64 B,J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD301AH
		Dilution Factor: 1		Analysis Time...: 18:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-MP4

DISSOLVED Metals

Lot-Sample #....: C9L020577-002

Date Sampled....: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD341AA
		Dilution Factor: 1		Analysis Time...: 19:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	3.4	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD341AC
		Dilution Factor: 1		Analysis Time...: 19:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	481	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD341AD
		Dilution Factor: 1		Analysis Time...: 19:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	1590	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD341AE
		Dilution Factor: 1		Analysis Time...: 19:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.079 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD341AF
		Dilution Factor: 1		Analysis Time...: 19:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.097 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD341AG
		Dilution Factor: 1		Analysis Time...: 19:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.37 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD341AH
		Dilution Factor: 1		Analysis Time...: 19:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-MP3

DISSOLVED Metals

Lot-Sample #...: C9L020577-003

Date Sampled...: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD4C1AA
		Dilution Factor: 1		Analysis Time...: 19:05		Analyst ID.....: 400149
		Instrument ID...: ICPMS2		MS Run #.....: 9338066		MDL.....: 2.6
Arsenic	0.98 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4C1AC
		Dilution Factor: 1		Analysis Time...: 19:05		Analyst ID.....: 400149
		Instrument ID...: ICPMS2		MS Run #.....: 9338066		MDL.....: 0.29
Iron	21.0 B	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD4C1AD
		Dilution Factor: 1		Analysis Time...: 19:05		Analyst ID.....: 400149
		Instrument ID...: ICPMS2		MS Run #.....: 9338066		MDL.....: 6.1
Manganese	12.7	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD4C1AE
		Dilution Factor: 1		Analysis Time...: 19:05		Analyst ID.....: 400149
		Instrument ID...: ICPMS2		MS Run #.....: 9338066		MDL.....: 0.039
Lead	0.069 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4C1AF
		Dilution Factor: 1		Analysis Time...: 19:05		Analyst ID.....: 400149
		Instrument ID...: ICPMS2		MS Run #.....: 9338066		MDL.....: 0.019
Thallium	0.062 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4C1AG
		Dilution Factor: 1		Analysis Time...: 19:05		Analyst ID.....: 400149
		Instrument ID...: ICPMS2		MS Run #.....: 9338066		MDL.....: 0.015
Vanadium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4C1AH
		Dilution Factor: 1		Analysis Time...: 19:05		Analyst ID.....: 400149
		Instrument ID...: ICPMS2		MS Run #.....: 9338066		MDL.....: 0.082

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-MP6

DISSOLVED Metals

Lot-Sample #...: C9L020577-004

Date Sampled...: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD4X1AC
		Dilution Factor: 1		Analysis Time...: 19:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	0.31 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4X1AD
		Dilution Factor: 1		Analysis Time...: 19:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	29.9 B	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD4X1AE
		Dilution Factor: 1		Analysis Time...: 19:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	448	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD4X1AF
		Dilution Factor: 1		Analysis Time...: 19:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.049 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4X1AG
		Dilution Factor: 1		Analysis Time...: 19:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.048 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4X1AH
		Dilution Factor: 1		Analysis Time...: 19:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.6 J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD4X1AJ
		Dilution Factor: 1		Analysis Time...: 19:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-MP7

DISSOLVED Metals

Lot-Sample #...: C9L020577-005

Date Sampled...: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD461A4
		Dilution Factor: 1		Analysis Time...: 19:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	5.5	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD461A7
		Dilution Factor: 1		Analysis Time...: 19:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	12200	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD461CA
		Dilution Factor: 1		Analysis Time...: 19:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	1580	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD461CE
		Dilution Factor: 1		Analysis Time...: 19:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.048 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD461CH
		Dilution Factor: 1		Analysis Time...: 19:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.022 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD461CL
		Dilution Factor: 1		Analysis Time...: 19:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.2 J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD461CP
		Dilution Factor: 1		Analysis Time...: 19:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-MP70 FD

DISSOLVED Metals

Lot-Sample #....: C9L020577-006

Date Sampled....: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD5D1AK
		Dilution Factor: 1		Analysis Time...: 19:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	4.8	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5D1AL
		Dilution Factor: 1		Analysis Time...: 19:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	12400	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD5D1AM
		Dilution Factor: 1		Analysis Time...: 19:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	1600	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD5D1AN
		Dilution Factor: 1		Analysis Time...: 19:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5D1AP
		Dilution Factor: 1		Analysis Time...: 19:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.17 B, J $\mu$	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5D1AQ
		Dilution Factor: 1		Analysis Time...: 19:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.8 J $\mu$	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5D1AR
		Dilution Factor: 1		Analysis Time...: 19:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.



Triad Engineering, Inc.

Client Sample ID: MW-MP2

DISSOLVED Metals

Lot-Sample #....: C9L020577-007

Date Sampled....: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD5K1AA
		Dilution Factor: 1		Analysis Time...: 19:53	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	0.51 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5K1AC
		Dilution Factor: 1		Analysis Time...: 19:53	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	11.3 B	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD5K1AD
		Dilution Factor: 1		Analysis Time...: 19:53	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	2.2	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD5K1AE
		Dilution Factor: 1		Analysis Time...: 19:53	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5K1AF
		Dilution Factor: 1		Analysis Time...: 19:53	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.075 B,J (J)	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5K1AG
		Dilution Factor: 1		Analysis Time...: 19:53	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.43 B,J (J)	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5K1AH
		Dilution Factor: 1		Analysis Time...: 19:53	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-MP1

DISSOLVED Metals

Lot-Sample #...: C9L020577-008

Date Sampled...: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD5R1AA
		Dilution Factor: 1		Analysis Time...: 19:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5R1AC
		Dilution Factor: 1		Analysis Time...: 19:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	272	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD5R1AD
		Dilution Factor: 1		Analysis Time...: 19:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	30.1	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD5R1AE
		Dilution Factor: 1		Analysis Time...: 19:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.032 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5R1AF
		Dilution Factor: 1		Analysis Time...: 19:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.063 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5R1AG
		Dilution Factor: 1		Analysis Time...: 19:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.4 J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5R1AH
		Dilution Factor: 1		Analysis Time...: 19:57	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-MP8

DISSOLVED Metals

Lot-Sample #...: C9L020577-009

Date Sampled...: 11/30/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD5V1AA
		Dilution Factor: 1		Analysis Time...: 20:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5V1AC
		Dilution Factor: 1		Analysis Time...: 20:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	ND	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD5V1AD
		Dilution Factor: 1		Analysis Time...: 20:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	1.0	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD5V1AE
		Dilution Factor: 1		Analysis Time...: 20:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5V1AF
		Dilution Factor: 1		Analysis Time...: 20:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.032 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5V1AG
		Dilution Factor: 1		Analysis Time...: 20:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.6 J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD5V1AH
		Dilution Factor: 1		Analysis Time...: 20:01	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-1A

DISSOLVED Metals

Lot-Sample #....: C9L020577-010

Date Sampled....: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD511AC
		Dilution Factor: 1		Analysis Time...: 20:06	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD511AD
		Dilution Factor: 1		Analysis Time...: 20:06	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	59.5	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD511AE
		Dilution Factor: 1		Analysis Time...: 20:06	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	15.2	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD511AF
		Dilution Factor: 1		Analysis Time...: 20:06	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.036 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD511AG
		Dilution Factor: 1		Analysis Time...: 20:06	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.039 B,J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD511AH
		Dilution Factor: 1		Analysis Time...: 20:06	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.2 J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD511AJ
		Dilution Factor: 1		Analysis Time...: 20:06	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-1D

DISSOLVED Metals

Lot-Sample #...: C9L020577-011

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD551AC
		Dilution Factor: 1		Analysis Time...: 20:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	0.99 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD551AD
		Dilution Factor: 1		Analysis Time...: 20:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	4180	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD551AE
		Dilution Factor: 1		Analysis Time...: 20:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	620	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD551AF
		Dilution Factor: 1		Analysis Time...: 20:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD551AG
		Dilution Factor: 1		Analysis Time...: 20:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.036 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD551AH
		Dilution Factor: 1		Analysis Time...: 20:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD551AJ
		Dilution Factor: 1		Analysis Time...: 20:10	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-8

DISSOLVED Metals

Lot-Sample #...: C9L020577-012

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD581AA
		Dilution Factor: 1		Analysis Time...: 20:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	0.40 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD581AC
		Dilution Factor: 1		Analysis Time...: 20:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	202	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD581AD
		Dilution Factor: 1		Analysis Time...: 20:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	1710	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD581AE
		Dilution Factor: 1		Analysis Time...: 20:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD581AF
		Dilution Factor: 1		Analysis Time...: 20:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	0.030 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD581AG
		Dilution Factor: 1		Analysis Time...: 20:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.33 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD581AH
		Dilution Factor: 1		Analysis Time...: 20:14	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-2

DISSOLVED Metals

Lot-Sample #...: C9L020577-013

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD6E1AC
		Dilution Factor: 1		Analysis Time...: 20:32	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6E1AD
		Dilution Factor: 1		Analysis Time...: 20:32	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	267	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD6E1AE
		Dilution Factor: 1		Analysis Time...: 20:32	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	3800	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD6E1AF
		Dilution Factor: 1		Analysis Time...: 20:32	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.027 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6E1AG
		Dilution Factor: 1		Analysis Time...: 20:32	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6E1AH
		Dilution Factor: 1		Analysis Time...: 20:32	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.43 B,J †	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6E1AJ
		Dilution Factor: 1		Analysis Time...: 20:32	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.



Triad Engineering, Inc.

Client Sample ID: MW-2D

DISSOLVED Metals

Lot-Sample #...: C9L020577-014

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD6F1AC
		Dilution Factor: 1		Analysis Time...: 20:37	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	2.3	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6F1AD
		Dilution Factor: 1		Analysis Time...: 20:37	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	1440	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD6F1AE
		Dilution Factor: 1		Analysis Time...: 20:37	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	1580	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD6F1AF
		Dilution Factor: 1		Analysis Time...: 20:37	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6F1AG
		Dilution Factor: 1		Analysis Time...: 20:37	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6F1AH
		Dilution Factor: 1		Analysis Time...: 20:37	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.84 B,J	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6F1AJ
		Dilution Factor: 1		Analysis Time...: 20:37	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-4A

DISSOLVED Metals

Lot-Sample #...: C9L020577-015

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD6H1AA
		Dilution Factor: 1		Analysis Time...: 20:41	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6H1AC
		Dilution Factor: 1		Analysis Time...: 20:41	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	37.5 B	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD6H1AD
		Dilution Factor: 1		Analysis Time...: 20:41	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	26.6	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD6H1AE
		Dilution Factor: 1		Analysis Time...: 20:41	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.034 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6H1AF
		Dilution Factor: 1		Analysis Time...: 20:41	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6H1AG
		Dilution Factor: 1		Analysis Time...: 20:41	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.60 B, J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6H1AH
		Dilution Factor: 1		Analysis Time...: 20:41	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-3AR

DISSOLVED Metals

Lot-Sample #...: C9L020577-016

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD6K1AA
		Dilution Factor: 1		Analysis Time...: 20:45	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	0.40 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6K1AC
		Dilution Factor: 1		Analysis Time...: 20:45	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	ND	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD6K1AD
		Dilution Factor: 1		Analysis Time...: 20:45	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	12.2	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD6K1AE
		Dilution Factor: 1		Analysis Time...: 20:45	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.070 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6K1AF
		Dilution Factor: 1		Analysis Time...: 20:45	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6K1AG
		Dilution Factor: 1		Analysis Time...: 20:45	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	0.73 B, J (4)	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6K1AH
		Dilution Factor: 1		Analysis Time...: 20:45	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S) :

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-5A

DISSOLVED Metals

Lot-Sample #...: C9L020577-017

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 9338163						
Aluminum	10.2 B	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD6L1AA
		Dilution Factor: 1		Analysis Time...: 20:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6L1AC
		Dilution Factor: 1		Analysis Time...: 20:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	19.3 B	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD6L1AD
		Dilution Factor: 1		Analysis Time...: 20:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	19.0	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD6L1AE
		Dilution Factor: 1		Analysis Time...: 20:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6L1AF
		Dilution Factor: 1		Analysis Time...: 20:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6L1AG
		Dilution Factor: 1		Analysis Time...: 20:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.1 J	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6L1AH
		Dilution Factor: 1		Analysis Time...: 20:49	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Triad Engineering, Inc.

Client Sample ID: MW-7

DISSOLVED Metals

Lot-Sample #....: C9L020577-018

Date Sampled...: 12/01/09

Date Received...: 12/02/09

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #....: 9338163						
Aluminum	ND	30.0	ug/L	SW846 6020	12/04-12/13/09	LQD6N1AC
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 2.6	
Arsenic	8.8	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6N1AD
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.29	
Iron	7310	50.0	ug/L	SW846 6020	12/04-12/13/09	LQD6N1AE
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 6.1	
Manganese	3750	0.50	ug/L	SW846 6020	12/04-12/13/09	LQD6N1AF
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.039	
Lead	0.023 B	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6N1AG
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.019	
Thallium	ND	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6N1AH
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.015	
Vanadium	1.2 J H	1.0	ug/L	SW846 6020	12/04-12/13/09	LQD6N1AJ
		Dilution Factor: 1		Analysis Time...: 20:54	Analyst ID.....: 400149	
		Instrument ID...: ICPMS2		MS Run #.....: 9338066	MDL.....: 0.082	

NOTE(S):

B Estimated result. Result is less than RL.

J Method blank contamination. The associated method blank contains the target analyte at a reportable level.

Table 1. Field Duplicate Summary Deltech					
COPC	MDL	Concentration (ug/L)		RPD Acceptance Limit(%)	RPD (%)
		MW-MP7	MW-MP70 FD		
Groundwater					
Aluminun	30	ND	ND	40	NA
Arsenic	1	5.5	4.8	40	14
Iron	50	12200	12400	40	2
Manganese	0.5	1580	1600	40	1
Lead	1	0.048	ND	40	NA
Thallium	1	0.022	0.17	40	154
Vanadium	1	1.2	1.8	40	40

Table 2. Field Duplicate Summary Deltech					
COPC	CRDL	Concentration (ug/L)		RPD	RPD (%)
		MW-MP7	MW-MP70 FD	Acceptance Limit(%)	
Groundwater					
Acetone	5	ND	ND	40	NA
Acetonitrile	20	ND	ND	40	NA
Acrolein	20	ND	ND	40	NA
Acrylonitrile	20	ND	ND	40	NA
Allyl chloride	1	ND	ND	40	NA
Benzene	1	ND	ND	40	NA
Bromodichloromethane	1	ND	ND	40	NA
Bromoform	1	ND	ND	40	NA
2-Butanone	5	ND	ND	40	NA
Carbon disulfide	1	ND	ND	40	NA
Carbon tetrachloride	1	ND	ND	40	NA
Chlorobenzene	1	0.94	0.94	40	0
Chloroethane	1	ND	ND	40	NA
Chloroform	1	ND	ND	40	NA
Chloromethane	1	ND	ND	40	NA
Chloroprene	1	ND	ND	40	NA
Dibromochloromethane	1	ND	ND	40	NA
1,2-Dibromo-3-chloropropane	1	ND	ND	40	NA
1,2-Dibromoethane	1	ND	ND	40	NA
Dibromomethane	1	ND	ND	40	NA
trans-1,4-Dichloro-2-butene	1	ND	ND	40	NA
Dichlorodifluoromethane	1	ND	ND	40	NA
1,1-dichloroethane	1	ND	ND	40	NA
1,2-Dichloroethane	1	2.4	2.4	40	0
1,1-dichloroethene	1	ND	ND	40	NA
trans-1,2-Dichloroethene	1	ND	ND	40	NA
1,2-Dichloropropane	1	ND	ND	40	NA
cis-1,3-Dichloropropene	1	ND	ND	40	NA
trans-1,3-Dichloropropene	1	ND	ND	40	NA
1,4-Dioxane	200	ND	ND	40	NA
Ethylbenzene	1	ND	ND	40	NA
Ethyl methacrylate	1	ND	ND	40	NA
2-Hexanone	5	ND	ND	40	NA
Iodomethane	1	ND	ND	40	NA
Isobutyl alcohol	40	ND	ND	40	NA
Methacrylonitrile	1	ND	ND	40	NA
Methylene chloride	1	ND	ND	40	NA
Methyl methacrylate	1	ND	ND	40	NA
4-Methyl-2-pentanone (MIBK)	5	ND	ND	40	NA
Propionitrile	2	ND	ND	40	NA
Styrene	1	ND	ND	40	NA
1,1,1,2-Tetrachloroethane	1	ND	ND	40	NA
1,1,2,2-Tetrachloroethane	1	ND	ND	40	NA
Tetrachloroethene	1	ND	ND	40	NA
Toluene	1	ND	ND	40	NA
1,1,1-Trichloroethane	1	ND	ND	40	NA
1,1,2-Trichloroethane	1	ND	ND	40	NA
Trichloroethene	1	0.62	0.62	40	0
Trichlorofluoromethane	1	ND	ND	40	NA
1,2,3-Trichloropropane	1	ND	ND	40	NA
Vinyl acetate	1	ND	ND	40	NA
Vinyl chloride	1	ND	ND	40	NA
o-Xylene	1	ND	ND	40	NA
m-Xylene and p-Xylene	1	ND	ND	40	NA

**NOTES:**

ND Not detected at a concentration greater than the Method Detection Limit.



## **Attachment C. Glossary of Data Qualifiers**

## DATA QUALIFIER DEFINITIONS

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

### ORGANIC

- B - The material was positively identified; however, the associated value is estimated to be biased high due to probable laboratory or field contamination.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N - The analysis indicates the present of an analyte for which there is presumptive evidence to make a tentative identification.
- NJ - The analysis indicates the presence of an analyte that has been tentatively identified and the associated numerical value represents its approximate concentration.
- H - The material was positively identified; however, the associated value is estimated to be biased high due to probable matrix effect.
- L - The material was positively identified; however, the associated value is estimated to be biased low due to probable matrix effect.
- UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
- UL - The material was analyzed for, but was not detected. The associated value is estimated to be biased low due to probable matrix effect.
- UH - The material was analyzed for, but was not detected. The associated value is estimated to be biased high due to probable matrix effect.
- R - The sample results rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

## INORGANIC

- U - The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
- J - The associated value is an estimated quantity.
- R - The data are unusable. (Note: Analyte may or may not be present.)
- H - The material was positively identified; however, the associated value is estimated to be biased high due to probable matrix effect.
- L - The material was positively identified; however, the associated value is estimated to be biased low due to probable matrix effect.
- UJ - The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.
- UL - The material was analyzed for, but was not detected. The associated value is estimated to be biased low due to probable matrix effect.
- UH - The material was analyzed for, but was not detected. The associated value is estimated to be biased high due to probable matrix effect.

## **Attachment D. Laboratory Case Narratives**

## **CASE NARRATIVE**

**Triad Engineering, Inc.**

Lot # C9L020577

### **Sample Receiving:**

TestAmerica's Pittsburgh laboratory received samples on December 2, 2009. Two coolers were received, the cooler containing the bottles for metal analysis, was received at ambient temperature.

If project specific QC was not required for samples contained in this report, when batch QC was completed on these samples, anomalous results will be discussed below.

### **GC/MS Volatiles:**

All non-CCC compounds that have >15% RSD were evaluated to see if a better curve could be drawn using a quadratic curve. All compounds <30% RSD will use an average response factor curve if no visible improvement is accomplished using a quadratic curve. A quadratic curve will be used for a compound where it is determined to be the "best-fit" evaluation.

The continuing calibrations had several compounds >25%D but they were within expected performance range for the compounds. All results were reported.

Due to the concentration of target compounds detected and/or matrix interference, sample MW-7 was analyzed at a dilution.

### **Metals:**

The method blanks had analytes detected at concentrations between the MDL and the reporting limit. The results were flagged with a "B" qualifier. Any sample associated with a method blank that had the same analyte detected had the result flagged with a "J" qualifier.

For sample MW-MP7, the matrix spike and matrix spike duplicate iron recoveries were not calculated due to the concentration of analyte in the sample being >4 times the concentration of spike added.